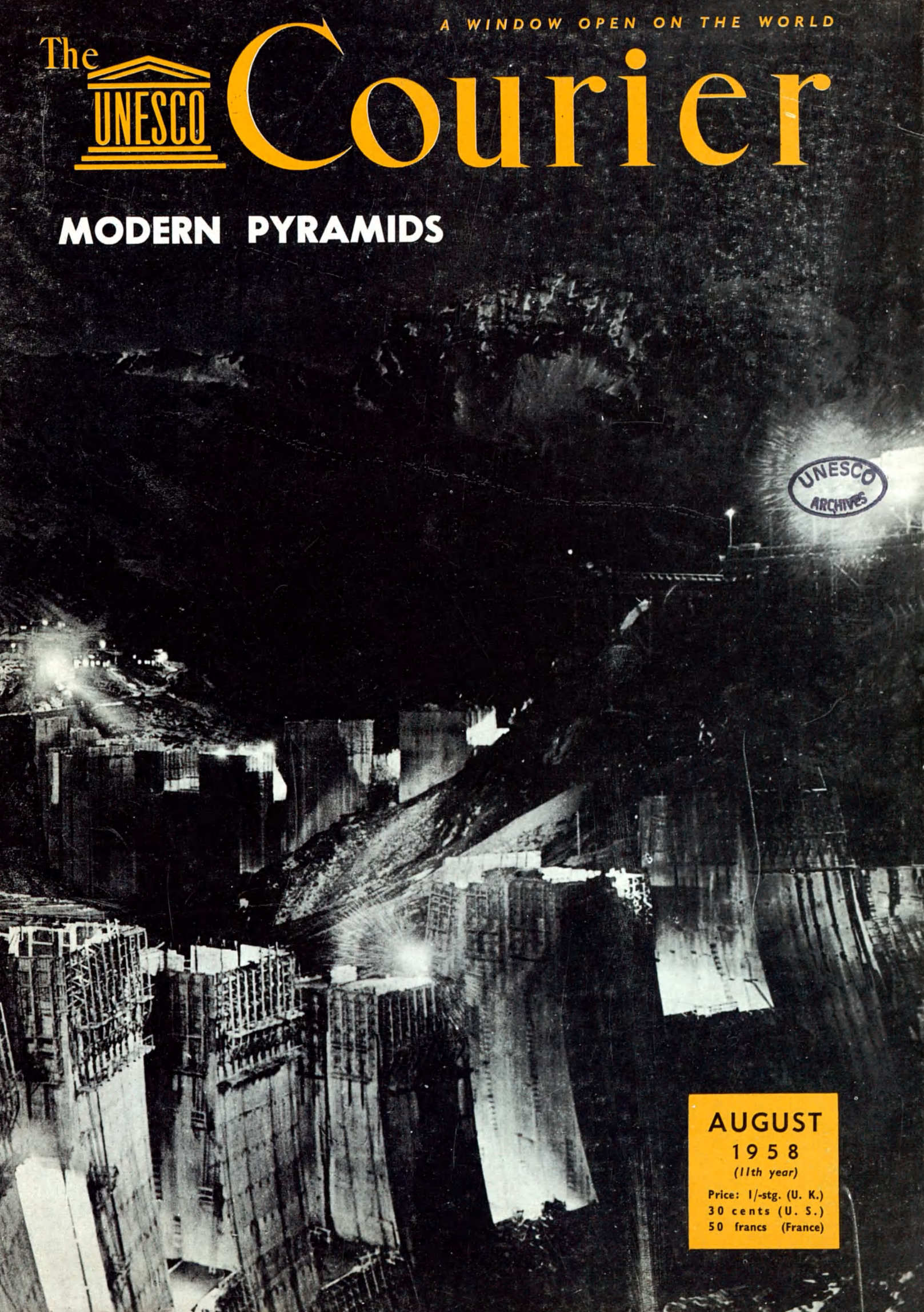
A WINDOW OPEN ON THE WORLD

The UNESCO Courier

MODERN PYRAMIDS



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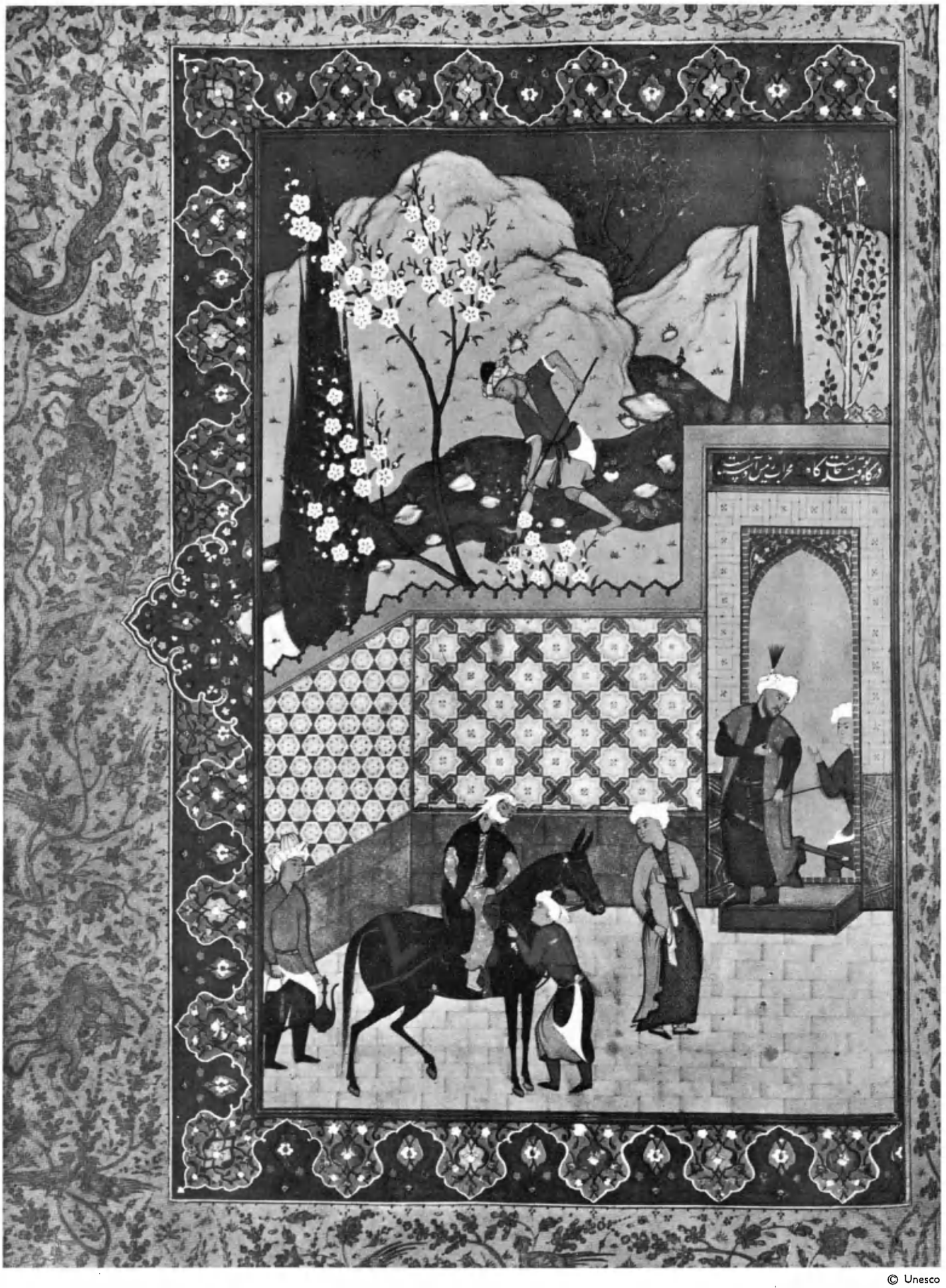

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Persian paradise: flowers and gardens

For the people of the Orient flowers and gardens are more than mere elements of decoration. They are esteemed as intimate friends to be dearly cherished. The Persians held them to be the Paradise on earth and a promise of future Paradise. The great Persian poet Omar Khayyam asked to be buried in a garden. Persian miniatures in ancient manuscripts often took gardens as the central motif of their paintings. Photo shows a scene in the forecourt of a Persian garden. Painting is attributed to a 15th-century artist, Qasem Ali, and is reproduced from the UNESCO World Art Series colour album "Iran—Persian Miniatures—Imperial Library", published by the New York Graphic Society. .(See article on page 27.)

A WINDOW OPEN ON THE WORLD

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AUGUST 1958 No. 8

11TH YEAR

CONTENTS

PAGE

THE WORLD BANK

3 **EDITORIAL**
A U.N. Specialized Agency

8 **MODERN PYRAMIDS**

10 **THE UNTAMED ZAMBEZI STRIKES BACK**
World's largest man-made lake at Kariba

14 **EPIC OF MEXICO'S GREAT FAR WEST**
By George R. Young

18 **GRANDEST VIEW IN CENTRAL EUROPE**

OTHER ARTICLES

4 **MODERN VOLGA 'BOATMEN'**

5 **PUTTING MIGHTY RIVERS TO WORK**
By W. H. Owens

24 **THE ROOTS OF PREJUDICE**
Part III: Racial bias in children
By Arnold Rose

26 **SCIENCE HAS THE ANSWER**
By Gerald Wendt

27 **SOUL OF THE ORIENT**
Flowers and gardens
By Baldoon Dhingra

30 **NIGERIA'S AMBASSADOR-IN-ART**

33 **LETTERS TO THE EDITOR**

34 **FROM THE UNESCO NEWSROOM**

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Editorial Offices
Unesco, 19 Avenue Kleber, Paris 16, France

Editor-in-Chief
Sandy Koffler

Associate Editors
English Edition : Ronald Fenton
French Edition : Alexandre Leventis
Spanish Edition : Jorge Carrera Andrade
Russian Edition : Veniamin Matchavariani

Layout & Design
Robert Jacquemin

Sales & Distribution Offices
Unesco, Place de Fontenoy, Paris 7e.

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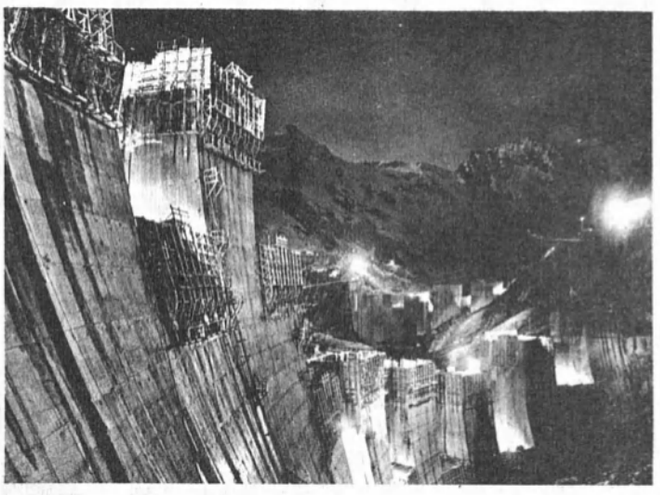


OVER 600,000 acres of hot desert in Pakistan cleared and brought into cultivation; a modern newsprint mill put into operation in Chile; dredging operations which have doubled the size of ships able to enter the port of Bangkok in Thailand; a giant hydro-electric power plant on the Danube, less than a hundred miles from Vienna; nearly 2,000 miles of motor highways being modernized in Colombia's Andean ranges; a giant steel mill which will add 400,000 tons a year to Japan's steel production.

These are only a handful of the development projects made possible through recent loans extended by a Specialized Agency of the United Nations—the World Bank. Officially known as the International Bank for Reconstruction and Development, the World Bank was established in June of 1946 with 38 nations. It now has 67. Its aim is to develop the resources of its member nations, increase the standards of living in under-developed areas, and bring about a healthy balance of world trade, guiding international investments into the most productive fields.

Certain basic economic problems—inadequate transportation, lack of electric power, the need for agricultural machinery and general agricultural development (flood control, irrigation, land clearance, for instance)—are common to many countries. The World Bank concentrates on loans to help wipe out these obstacles. And from tiny El Salvador to giant India these loans are at work daily.

Since beginning its operations in the difficult period following World War II, the Bank has helped member nations to add almost ten million kilowatts to the electric power capacity of the world. It has financed some fifty railway, road and port improvement schemes and the expansion of three international airlines. All told, the World Bank has made 204 loans to 47 countries in the past twelve years for a grand total of just under $4,000,000,000.

For each loan project, teams of Bank experts carefully check the plan and all its ramifications before the loan is actually granted. For the great Kariba Dam project in Africa, for example, experts spent the better part of two years studying the Federation of Rhodesia's basic problems and economic development before the Bank's loan of $80 million was finally accorded. (See page 10.)

By concentrating on fundamental projects such as agriculture, transportation and electric power, the Bank is helping to build a solid floor under the economies of almost half a hundred nations of the world. Although universal economic development will require many years to achieve, World Bank aid is a proven step toward that goal. On pages 8-23, THE UNESCO COURIER presents a few projets which indicate the scope and purpose of World Bank operations.

PUTTING MIGHTY RIVERS TO WORK

MODERN VOLGA 'BOATMEN'

The Soviet Union is today the top-ranking country of Europe and the second in the world in the production of hydro-electric energy, according to the most recent survey, published in July, by R.P. Nossov, head of the Soviet Hydro-electric Construction Department of the Ministry of Electric Stations. With more than a million and a half miles of rivers and waterways Soviet energy potential exceeds that of all the countries of Europe, the U. S. A. and Canada combined, Mr. Nossov reports.

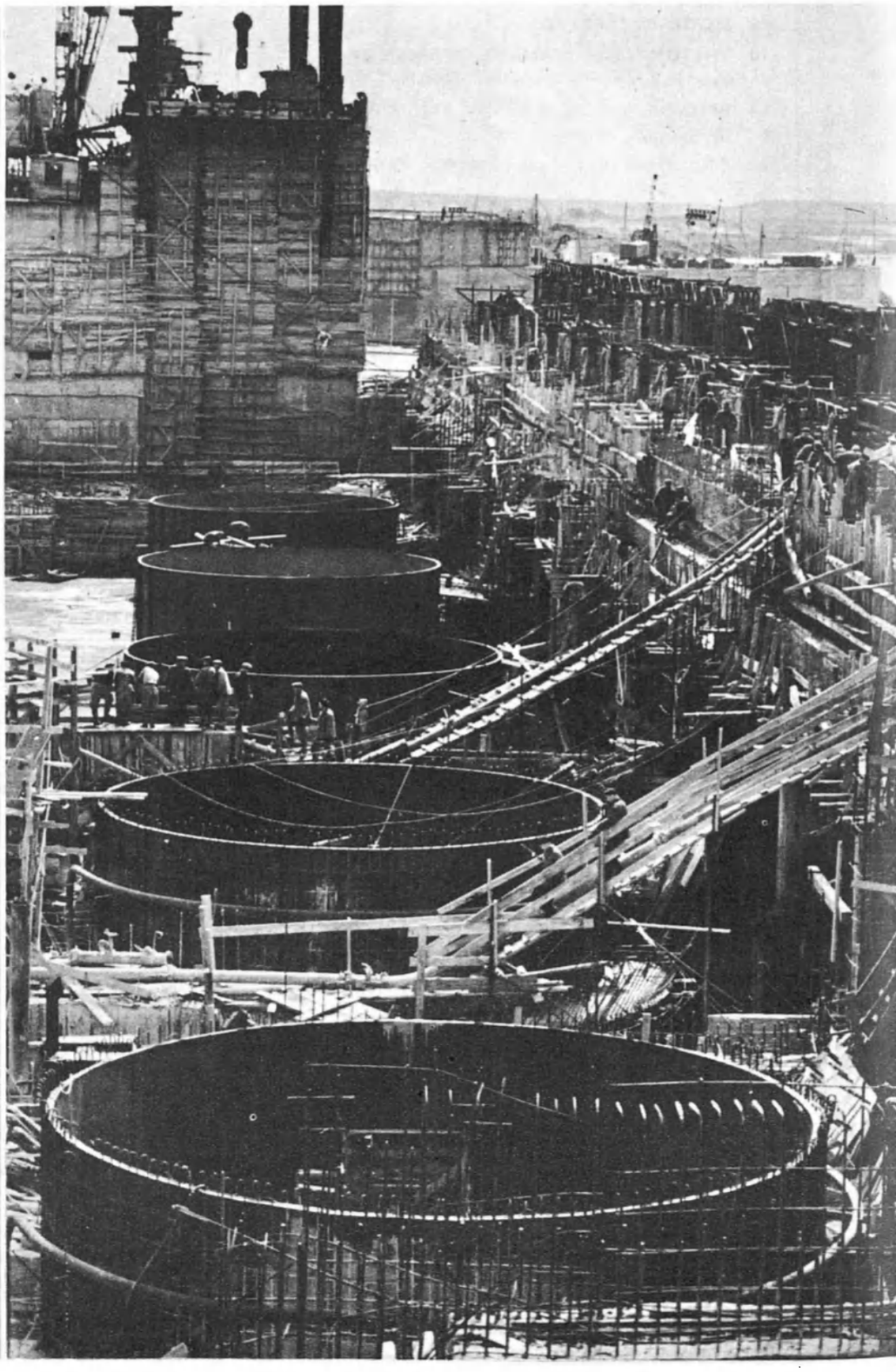
In the past ten years, dam construction in the Soviet Union has been proceeding at a colossal scale. Last year, the most powerful dam in the world, with a capacity of 2,100,000 kilowatts, went into operation at Kuibychev on the Volga river. The dam (shown on opposite page) raised the level of the Volga by 100 feet and has an average annual output of 10,700 million kilowatt-hours. This autumn an even more powerful dam will go into operation when the first turbines are installed at the Stalingrad station with a capacity of 2,310,000 KW. In the Ukraine, large hydro-electric stations are being built at Kremchug and Dneprodzerzhinsk. Seven dams are under construction on the Neman, the largest river of the Baltic, while in the Transcaucasus mountain rivers are being harnessed.

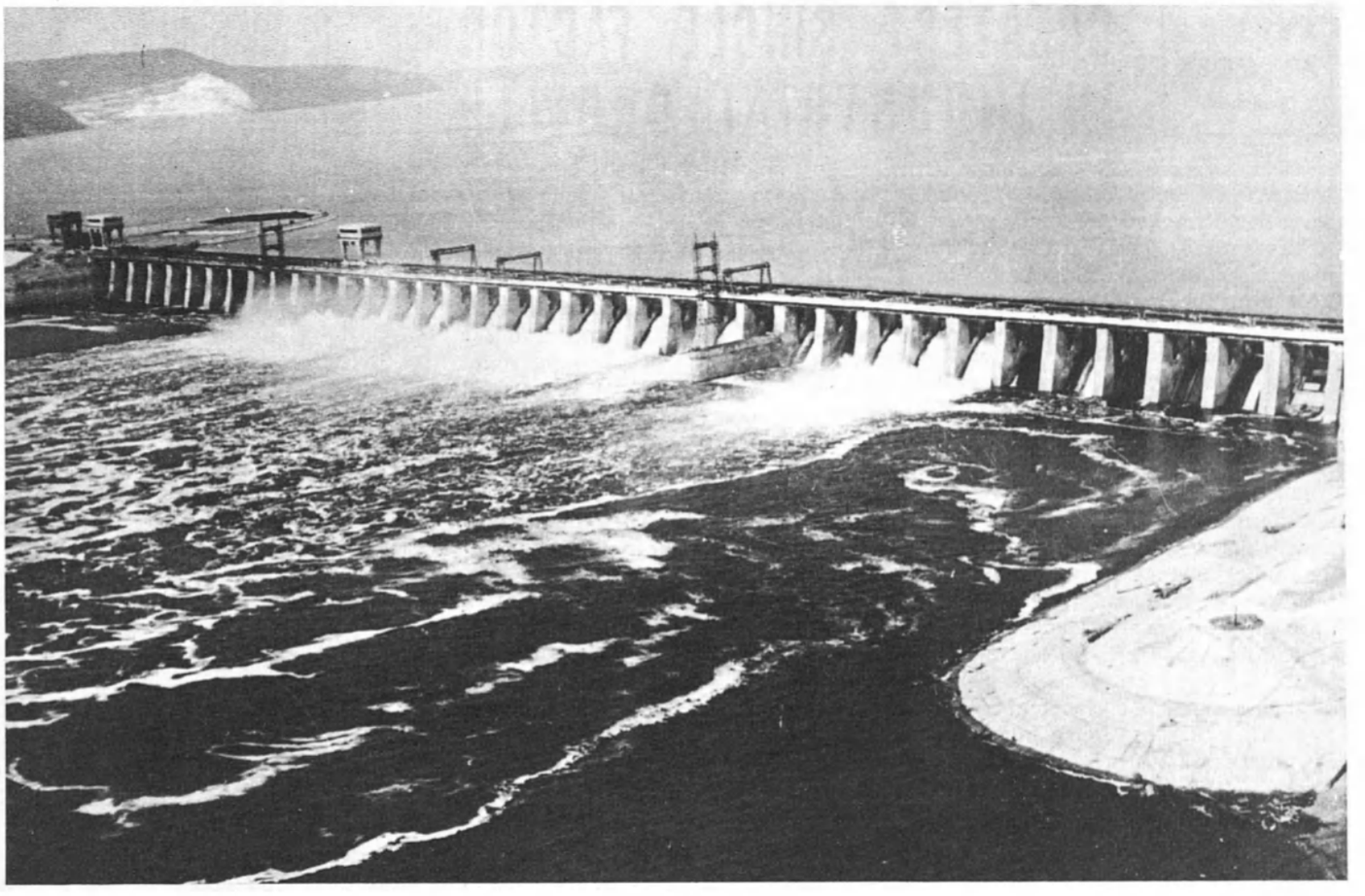
But it is in Siberia and in Central Asia that the most impressive work is now in progress. Gigantic stations are going up at Bratsk on the Angara river and at Krasnoyarsk on the Yenisei, each of which will produce 3,200,000 kilowatts. The mighty Angara is the only outlet for Lake Baikal, the deepest fresh-water lake in the world and the world's second largest in volume of water (23,000 million cubic metres). On the Yenisei, another huge dam is now planned, the Yeniseiskaya hydro-electric station, which when completed will have a total capacity of six million kilowatts.

Between 1959-1965, the Soviet Union expects to complete its unified energy system for the European part of the USSR bringing its total electrical capacity to 50 million kilowatts, while a further 20 million kilowatts are foreseen for eastern and western Siberia.

Photo alongside shows assembly of turbo-generators at Novosibirsk station, Siberia.

Soviet Information Bureau, Paris





RIVERS have tremendous power for good or for destruction. Uncontrolled, their recurring floods lay waste the lands and cause soil erosion, water pollution and often widespread disease and famine. All through the centuries large areas of the world, in Asia especially, have been impoverished in this way. Even today more than one-fifth of the human race is still subject to the sudden and devastating onslaughts of river flooding.

Yet when harnessed by modern engineering skill, the power of great rivers can change the lives of whole communities, turning scarcity into plenty and creating virtually unlimited opportunities for economic and social progress. The multi-purpose development of river basins is making a most important contribution towards better living standards for millions of people. It provides for irrigation, flood control and soil conservation, electric power for industry and agriculture, and improved navigation all under one comprehensive scheme. The benefits are permanent and may be steadily extended ower a considerable area.

There is now a world trend towards this new concept of development as a means of utilizing unproductive lands, exploiting natural resources and distributing population. Scientific irrigation and flood control makes agriculture on a hitherto unimagined scale practicable. Soil erosion is halted by reafforestation schemes. An abundant supply of hydro-electric power attracts industry to undeveloped areas which may be rich in minrals or other raw materials. New employment is created not only for local communities but also for the surplus populations of overcrowded cities.

Multi-purpose river development is

by

W. H. Owens

practised on a large scale in the U.S.A., where it has helped to open up great areas of arid but otherwise fertile lands. The huge Grand Coulee Dam, centre of the Columbia River Basin Project, is the key to future industrial and agricultural progress in the North-Western United States. Its hydro-electric plant is able to generate enough electricity to supply the whole needs of a city of four million people; its irrigation facilities range over more than one million acres. Regional population has increased twenty-fold since the scheme began operating in 1941.

The world famous Hoover Dam (formerly Boulder Dam) on the Colorado River, between Arizona and Nevada, is another spectacular example of American multi-purpose river planning, and is a vital factor today in the development of the vast agricultural and growing industrial areas in Southern California. Millions of people and thousands of square miles of fertile land are dependent on imported water. Giant conduits, crossing hundreds of miles of rugged mountainous and desert country, supply a thousand million gallons of fresh water daily from the Colorado River to between sixty and seventy communities in the South California Basin.

Nowhere in the world, perhaps, does such imaginative utilization of rivers promise greater rewards than in countries like India and Pakistan, and other regions of the East where climate and uncontrolled water courses have been a great hindrance to human progress. The river valley projects now under way or planned will increase production and raise living standards to a far greater extent than any other form of development. Two of India's largest power and

Cont'd on next page

RIVERS AT WORK (Continued)

GREATEST SINGLE FACTOR IN INDUSTRIAL GROWTH

irrigation schemes are the Hirakud Dam in Orissa and the Bhakra Dam in the Punjab. These are among the modern engineering marvels of the East and the most important of a number of similar undertakings due for completion in the course of the Second Five Year Plan. They symbolize the new India and her determination to make her rivers the basis of future well-being and prosperity.

The Hirakud Dam, three miles long and flanked by thirteen miles of protective dikes, is a triumph of Indian hydraulic engineers over the twin scourges of flood and famine which have been Orissa's burden down the ages. Its 232,500 kW. generating capacity will bring heavy industry, such as steel-making and chemical plants, to a State that has much unexploited mineral wealth.

Bhakra Dam is the keystone of the Bhakra-Nangal Project that will transform the Punjab into a great food-producing and industrial area. The massive 760-foot reinforced concrete dam wall actually exceeds that of the Hoover Dam in America by 34 feet. The Damodar Valley Corporation Project, in Bihar, has been modelled on that of the Tennessee Valley Authority (U.S.A.) to develop the very promising lands of a great river basin near Calcutta.

Pakistan has comparable river developments in her important foreign-aided Karnafuli (East Pakistan) and Warsak (West Pakistan) schemes. The Warsak Project, which is being financed largely by Canada, has special significance because it will bring stability and purpose to the lives of the tribal communities in the traditionally unsettled region of the North-West Frontier. The irrigation part of this scheme, extending over 120,000 acres, will increase food production by at least 60,000 tons a year.

One of the most far-reaching developments of this kind in the world is foreshadowed in the bold plan to harness the mighty Mekong River of South-East Asia. The Mekong flows down from the remote, snow-covered mountains in the heart of Tibet to the South China Sea, a distance of about 2,600 miles. The lower river basin passes through four under-developed countries—Cambodia, Laos, Thailand and South Vietnam—each of which would benefit enormously if the Mekong's power were controlled and put to work for the good of the inhabitants.

Towards the end of 1957 a United Nations Survey Mission made an extensive study tour through the Mekong basin area. Members of the Mission travelled nearly 2,000 miles by road, river and air (making use of helicopters in the remoter districts) to study the natural features and characteristics of the river, and to investigate possible sites for dams, barrages and so on. Their very detailed Report, published in January, 1958, was favourable towards the multiple development of this four-nation watershed, and recommended a five-year programme of investigation and planning.

In many countries, especially where coal resources are poor or lacking altogether, the harnessing of water power has been the most important single factor in the growth of industry. Japan, for example, has insufficient coal for her needs, but she has become highly industrialized through exploiting her abundant water power to the fullest degree. Good rainfall and a large number of swift-flowing mountain streams provide the Japanese with ideal conditions for intensive hydro-development.

Similarly in Europe, Sweden and Norway get more than 95 per cent of the electrical energy for industry from water power. Lacking coal of their own, the Swiss have yoked their mountain rivers and falls to the electrified national railway system and most of their manufacturing industries. Water power is also becoming increasingly important to the national economies of France and Italy.

The U.S.S.R., which has rich coal deposits and other sources of power besides, contains also more than a third of the world's total water power resources. Most of this lies in Asiatic Russia and is for the greater part as yet undeveloped—though many important power projects in the far east of the Soviet Union have been undertaken in recent years. In the European part of the country, more than half the hydro power is located in the Caucasus, and it has been extensively developed.

Russia's famous Dnieper hydro-electric station, in the Ukraine (restored since its destruction in the second World War) was the most powerful on earth when originally

opened in 1932. This huge project, planned to meet the growing needs of heavy industry in the Ukraine, was designed also for irrigation purposes and so was one of the prototypes of multi-purpose river development outside the U.S.A. Hydro-electric development has naturally taken a prominent place in the recent Plans of the Soviet Union. Last year, the giant two-million kW Kuibychev Station was put into operation. (See p. 4.) In the next few years such major projects as the large Stalingrad station on the Volga will be completed, while a number of others along this river and also on the Dnieper are in progress.

Important hydro-electric stations being constructed in Eastern Siberia, a land of powerful rivers, include those at Irkutsk, on the Angara, and Krasnoyarsk, on the Yenisei. These places are centres of heavy industry supplying equipment for mining, agriculture and railway and water transport in the far east of the U.S.S.R. The immense water-power potential of the Angara and the Yenisei will be harnessed under a combined long-

3,000 foot drop in ten miles

When the Lusitania was torpedoed in 1915, among the 1,195 persons who perished was an American engineer, Frederick Pearson, who pioneered an audacious water power enterprise in Mexico. At the start of the century, Pearson heard of a tremendous waterfall, called Necaxa, 100 miles east of Mexico City, where the river fell 3,000 feet in 10 miles in a series of three gigantic steps. Pearson installed a power plant at the foot of the first step; he built a dam across the top of the fall, diverting the water through pipes down 1,450 feet to a turbine below. This involved the construction of what was then the world's largest earth dam and the longest transmission line in the world. Rather than lead his water pipes down the mountain side, Pearson dug a shaft straight down through the mountain rock to its base. This shaft, 1,600 feet long, equipped with a cable car, is still the only means of access to the power plant below.

Pearson's death prevented him from exploiting the two other falls. This was left to his successors. Today power plants stand at all three falls. "There can be few places in the world," official recently wrote, "where a given amount of waterpower is so fully exploited. The quantity of water involved is very small... but the total electrical energy it produces annually already totals more than 750 million kilowatt-hours in the three power stations. Mexico has lost its Nexaca waterfalls, but it has gained the sinews for its economic development."

Photo shows workmen waiting to descend to station at second waterfall, 700 feet below.

term project for the exploitation of Eastern Siberia's vast natural wealth.

Output of electrical energy in the U.S.S.R. has grown impressively since the last war, and is now second to that of the U.S.A. On the outbreak of World War II the total output of all Soviet power stations, thermal and hydraulic, amounted to about 50,000 million kW—25 times as much as in 1913. By 1955 it had more than trebled again to 170,000 million kW, and this figure is expected to be almost doubled by 1960.

Canada provides a very striking example of how a vigorous young nation has built a flourishing industrial economy based on water power. Her industries have grown up simultaneously with the harnessing of just a part of the virtually unlimited power resources invested in the country's innumerable lakes and rivers. The gigantic power of the Niagara Falls, for example, nowadays runs a large part of industry in Ontario, the most highly industrialized province in Canada. Since the early part of this century hydro-electric capacity in Canada has increased more than one hundred-fold, the most rapid progress having taken place within the last fifteen years. Even so, the country's water power potential is still less than one quarter developed.

★

In the heart of tropical Africa, too, water power is beginning to be exploited on a large scale to serve new towns and new industries in what was nothing but primitive wilderness not so many years ago. On the great Zambezi River, which the explorer Livingstone reached just over a century ago, a 420-ft. high dam is now under construction to create the world's largest man-made lake (See page 10). Power generated at this dam will be carried by overhead transmission cables to many areas of Central Africa where new economic developments are under way, and in particular to the important copper mines on the frontier of Northern Rhodesia and the Belgian Congo. The output of these African copper mines is at present exceeded only by that from the copper deposits in Chile. With the new power supplied by the Zambezi scheme they are capable of great expansion.

The advantages of producing electricity by hydro methods are long-term cheapness and dependence on no raw material other than water, which is unfailing. Capital costs are certainly heavy at the outset, especially for countries which are as yet in the early stages of development.

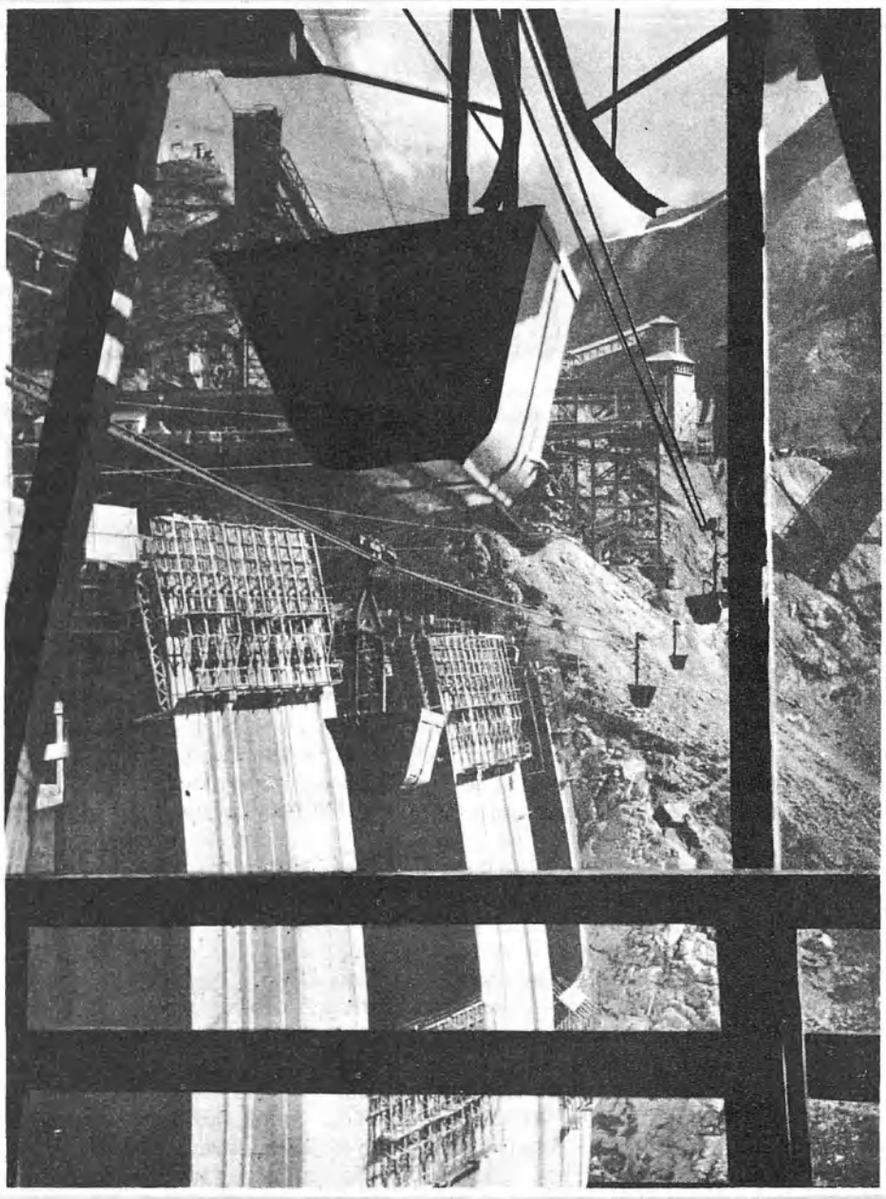
But placing of an initial investment ensures abundant supplies of low-cost power over a wide area for an indefinite period. Once the capital charges have been worked off, the actual cost of running a hydro plant is considerably lower than that of a fuel plant.

Moreover, as has been shown, the same dam works provide the means for such other purposes as irrigation, flood control, and water supply for local or distant towns and communities. Nor is that all. The multifarious benefits of comprehensive river development range beyond the utilitarian and may include the establishment of national parks for recreation and wild life preservation.

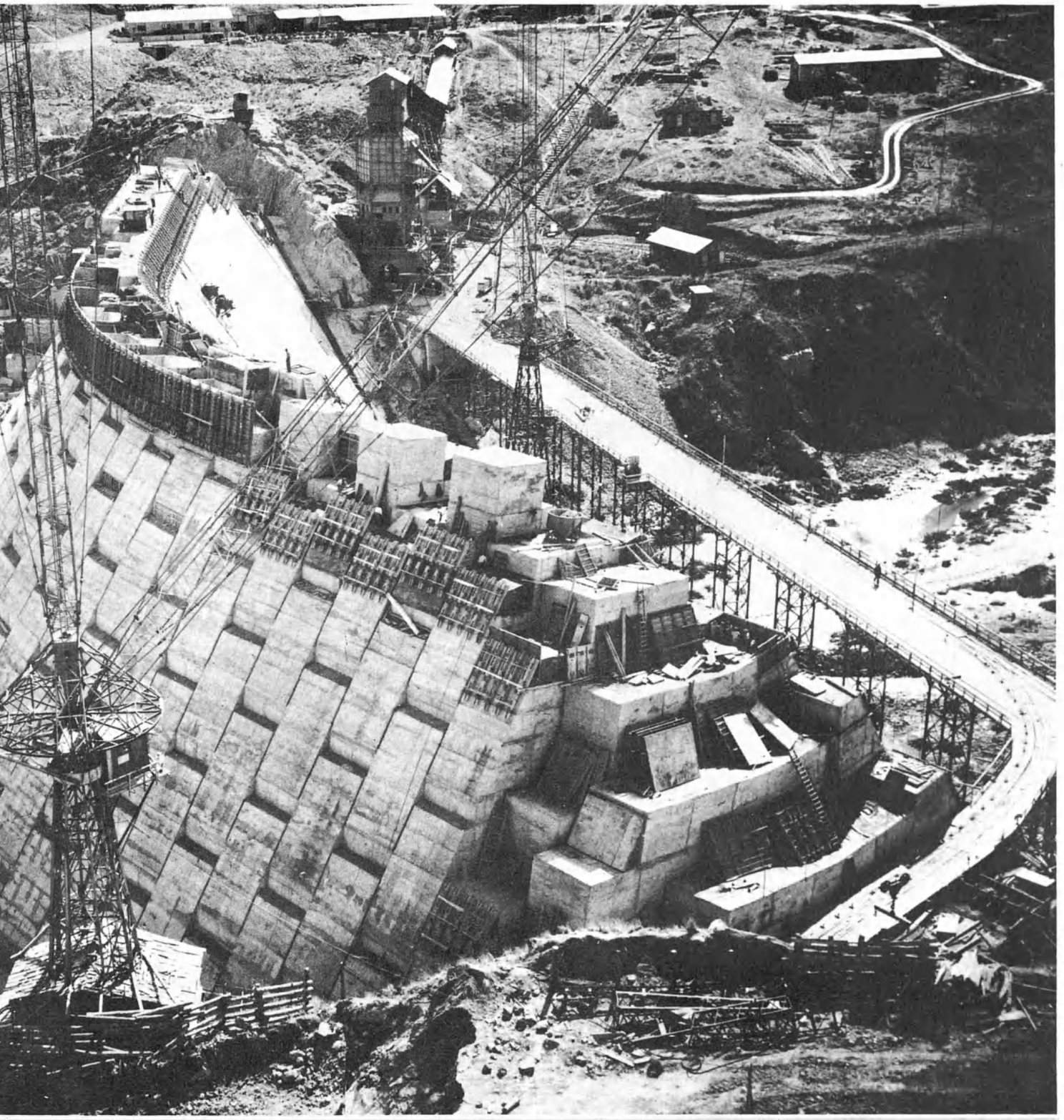
MODERN PYRAMIDS

The ancients created their great wonders of the world—the Pyramids of Egypt, the Hanging Gardens of Babylon, the Temple of Diana at Ephesus, the Statue of Zeus at Olympia, the Mausoleum at Halicarnassus, the Lighthouse at Alexandria, and the Colossus at Rhodes. Amazing as were these wonders of antiquity, they pale before the wonders of modern times. The Hanging Gardens and the Pharos at Alexandria sink into insignificance before the skyscrapers, span bridges and public buildings of today. The Pyramids, mighty as they are, are equalled by the "pyramids" of our own century, the towering dams and barrages which are harnessing rivers for the benefit of millions of common people and opening up unsuspected perspectives of economic and social development for vast regions of the earth still little developed. These great feats of engineering and architectural skill, however, usually require fabulous sums of money which many States are unable to provide by themselves, and it is in part through international co-operation and the help accorded by a Specialized Agency of the United Nations, the International Bank for Reconstruction and Development, that many of the "modern pyramids" are being built today. Below, a "modern pyramid" rises in Austria.

Photo by Franz Hubmann, reproduced from "Wasserkraft", published by "Zeitschriftenverlag Austria International Gesselschaft", Vienna



WATER FOR ITALY'S PARCHED LANDS



World Bank photo by Vecchio Vega, Catania

Ten million acres of land put to work for men, crops and livestock. This is the goal that the Cassa per il Mezzogiorno, an Italian government agency, has set itself as part of a massive fifteen-year development programme under way since 1950 in the nation's southern provinces and islands. Italy's greatest economic problem for many years has been the poverty and backwardness of this region, supporting a third of the Italian people, where flash floods in winter and droughts in summer have long been the rule. A total of $3,200 million has been allotted the Cassa mainly for irrigation, transportation and sanitation, and additional sums are being used for industrial and electric power development. The World Bank is helping the Italian Government in this huge project and has made five important loans totalling $240 million. Pipes are being laid across miles of countryside, and carried by tunnels through the hills. Forty-four aqueducts are either completed or under construction. In the outskirts of Naples, Italian engineers are constructing a reservoir (to be ready this year) with a capacity of 18 million gallons. Irrigation canals are being built to bring water to the dry farmlands. In Sicily, particularly in the Catania plain, where the problems are similar to those on the southern mainland, what the land needs most is water. In the hills behind the plain water is plentiful and the Italians have already built one dam for producing electricity and as a water-store for irrigation. A second reservoir and a new dam are under construction (the Pozzillo Dam shown in photo above) and will store enough water to feed 1500 farms. From the start of operations in 1950 to end 1957 farm output in southern region has increased by some 40% and industrial production by about 50%.

World Bank photos

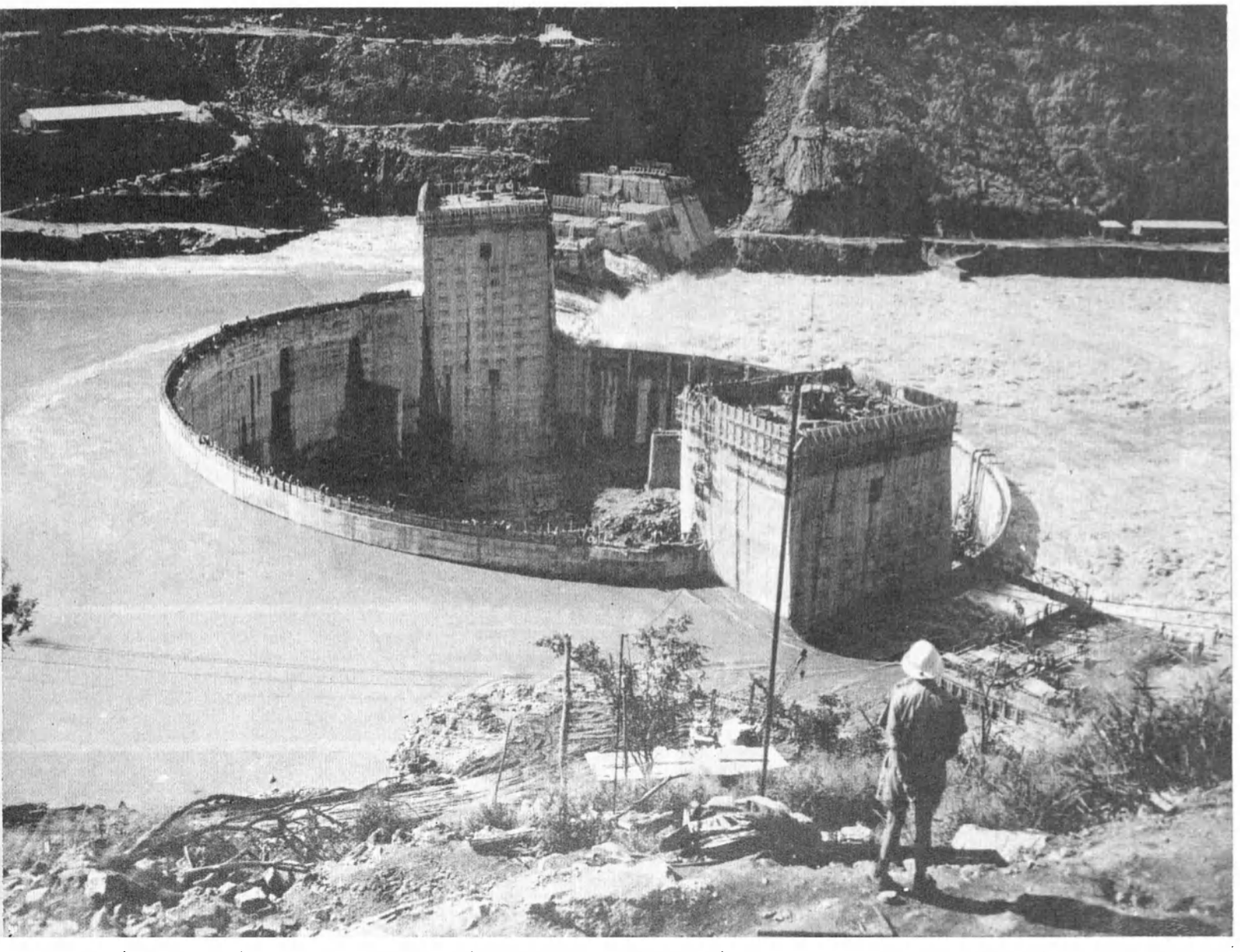
Looking like a child's toy on an earth mound, a long train of railway cars forms a wide circle as it spirals down Lake George escarpment toward Kampala in Western Uganda. The territories of Uganda, Kenya and Tanganyika have embarked on a vast project to improve railway and port facilities to meet swiftly rising exports of copper, diamonds, sisal, coffee and cotton. The East Africa High Commission, responsible for the development programmes in these territories has received a $24 million loan from the World Bank to finance the import of equipment and supplies for the projects.

THE UNTAMED ZAMBEZI STRIKES BACK

EVER since David Livingstone came across it in 1855, the Zambezi River has inspired visions in the minds of engineers. Untamed since the beginning of time, its mighty waters surge through the heart of Central Africa until, at one point, they are suddenly precipitated in a deafening roar that can be heard for 20 miles into the most formidable cataract in the world—the Victoria Falls. From there the Zambezi's waters are carried away in a tortuous and turbulent course through a series of steep gorges which form the boundary of Northern and Southern Rhodesia.

It is in one of these gorges, at a spot called Kariba Gorge about 300 miles downstream from Victoria Falls, that the largest dam in Africa and one of the greatest power schemes in the world, is being built by the Federation of Rhodesia and Nyasaland. The Kariba Dam is going up with help of an $80,000,000 loan from the World Bank—the largest it has ever made for a single project.

When completed, the Kariba arch dam will contain 1,400,000 cubic yards of concrete and will rise 420 feet above the river bed—just about as high as the U.N. skyscraper in New York. A roadway, 1,900 feet long, will carry four lanes of traffic on the crest of the dam. Such is the flow of the Zambezi at Kariba Gorge that the reservoir behind the dam will flood 2,000 square miles of bush country, creating the biggest man-made lake in the world, 190 miles long and up to 40 miles wide—more than four times the capacity of the Hoover Dam in America, at present the world's biggest artificial lake.



A few days after this picture was taken in March 1958, the swirling flood waters of the Zambezi River broke over the wall of the coffer dam erected in midstream for the giant Kariba Dam hydro-electric power station being built in the Federation of Rhodesia and Nyasaland (photo of flooded coffer dam is shown next page). For the Kariba Dam, one of the world's most ambitious engineering projects, the International Bank for Reconstruction and Development has made loans totalling $80 million, the World Bank's largest loan in Africa, and its largest for a single undertaking to date.

By 1960, water from this artificial lake will be released to turn the turbines of six 100,000 kilowatt generators with a full potentiality of nearly 4,000 million kilowatt-hours per year. By 1972 installations are scheduled to be completed for generating 1,200,000 kilowatts. Two underground power stations are being hewn out of the rock on either side of the Zambezi for the turbines. Nearly 1,000 miles of transmission lines will be laid to feed electricity to the power-starved copper belt of Northern Rhodesia and the mushrooming industrial cities of Southern Rhodesia.

Today, when more than ever before, man is trying to control nature, the Zambezi is a logical candidate for development. Ever since World War II and even before then, countless people in government and out of government, scientists, engineers, economists, officials and businessmen, have been studying the Zambezi, and more important still, studying the territories and the people that the river is made to serve.

These territories are the rich but sparsely populated countries of the Federation of Rhodesia and Nyasaland. Covering an enormous area of over 450,000 square miles, the Federation came into existence five years ago and has a status close to that of the independent members of the British Commonwealth. Its population numbers little more than seven million people, of which 250,000 are Europeans.

Few people realize that the Rhodesian Federation has the fastest growing economy of any country in the world! Between 1950 and 1955 the national income of all three regions combined more than doubled itself. Imports, worth approximately $70 million in 1946 are now running to something like $450 million, while exports show a correspondingly spectacular jump in value. Northern Rhodesia contains the great copper belt of Africa and now rivals Chile as the world's largest copper producer. Other mineral products, such as gold, lead, asbestos, chrome and coal, are now being exploited. In Southern Rhodesia, in addition to crop exports (tobacco is the nation's second export item) local manufacturing industries have show fantastic growth in the past few years. At Bulawayo, for instance, 300 factories were registered in 1957, principally metalworking, machinery and motor engineering establishments.

Mining and industry now consume 78 per cent of the power produced in the Federation and much larger quantities are essential for their continued expansion. In Southern Rhodesia all urban and industrial centres depend on electric power. Since there is no gas supply, all essential services, including water supply in the large cities, are electrically operated, and power rationing has been required in recent years.

Power for the copper mines in Northern Rhodesia comes mainly from coal found only at the western tip of Southern Rhodesia. It thus has to be transported two to five hundred miles over a single-track rail-

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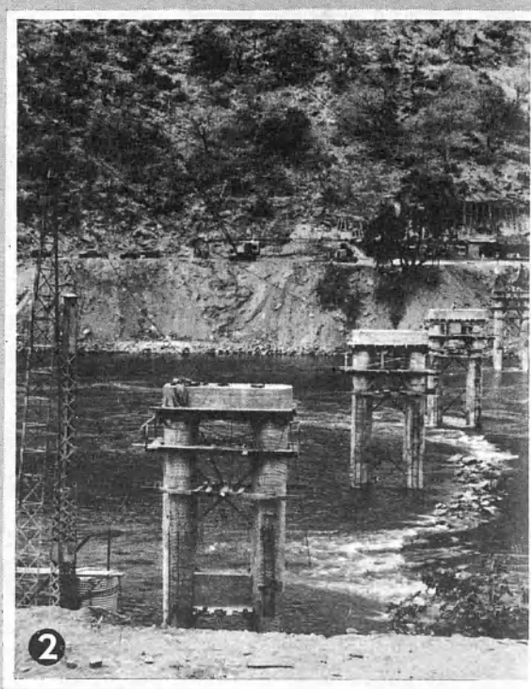
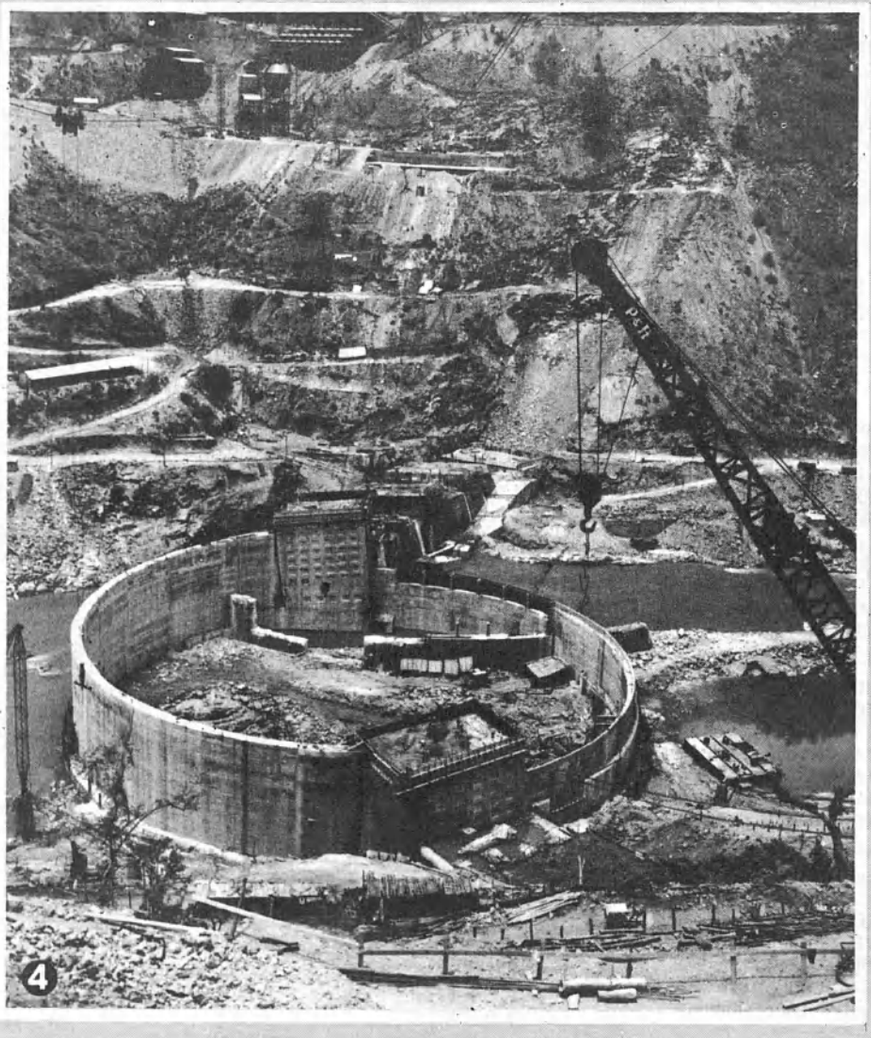
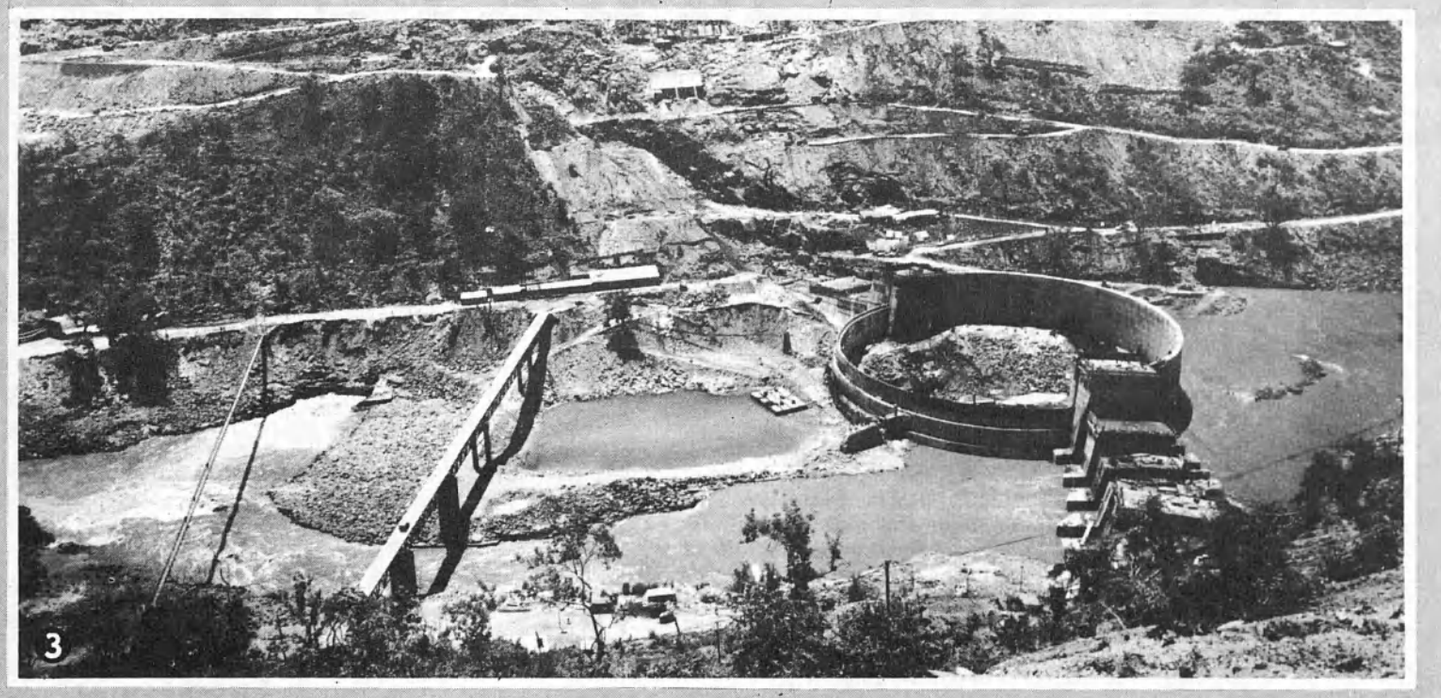


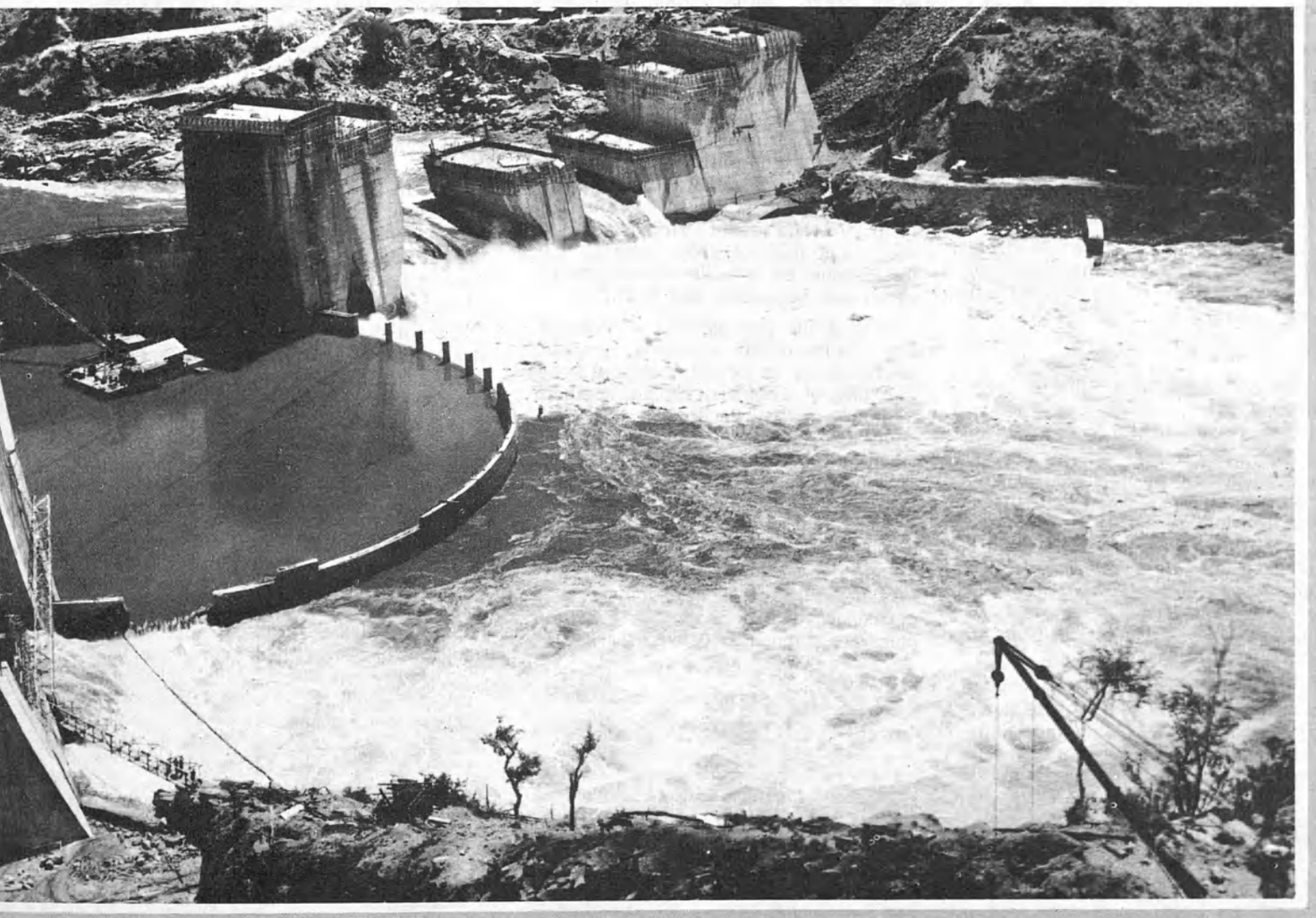
KARIBA, WORLD'S LARGEST MAN-MADE LAKE

The wide waters of the mighty Zambezi will soon be harnessed to provide power for the development of a vast territory of Central Africa. When the Kariba Dam spanning the Zambezi is completed in 1960, some 2,000 square miles of bush country will be flooded, creating the biggest man-made lake in the world—190 miles long and up to 40 miles wide. It will store 130 million acre-





feet of water or more than four times the capacity of America's Hoover Dam, at present the world's largest man-made lake. Photos show various stages in the construction of the dam. (1) Cableway used for transporting equipment and concrete across river. (2) Pilings driven into river bed for road bridge shown in use at (3). Here, the Zambezi's waters have been diverted. Circular coffer dam is being built (Dec. 1957) across main channel of river and pumped dry to enable centre section of main dam wall to be constructed. Photo (4) shows coffer dam (almost completed) towering above low level of river. At (5) taken on April 7, 1958, the Zambezi has flooded entire coffer dam. Pumping operations have now permitted work to continue.



Photos by R.D.K. Hadden & H.M. Crane — © Federal Information Dept., Salisbury, Southern Rhodesia

EPIC OF MEXICO'S GREAT FAR WEST

by George R. Young

THE northwest coast of Mexico runs from a point on the Pacific Ocean west of Guadalajara all the way to Arizona, for the most part bordering the shores of the Gulf of California. Along most of this coast extensive flat plains rise abruptly to the foothills of the great Sierra Madre. The winter snows on its peaks and the rains in the wet season flood down across the coastal plain through more than 25 rivers—rivers whose courses are short and swift and whose water is usually exhausted in flash floods within a few days or weeks.

Until recently, cultivation was confined to small areas in the immediate vicinity of the river valleys. There were large ranches in the foothills of the Sierra but the coastal plain itself for most of the year was a hot, arid land of cactus and brush. No one could have predicted that this largely desert region would come to bloom like a rose.

Sitting ducks for bandits

IT is here that the story of the Pacifico Railway takes place—a railroad which after one life of 70 years was reborn in November 1957 to meet the challenges of a new world.

The first rail outlet for Mexico's northwest was completed in 1882. The line ran 250 miles northwards from Guaymas, a port on the Gulf of California, to the Arizona border near Tucson, transporting mainly cattle and hides from the extensive ranching country.

Over the years the railway crept southward, first from Guaymas to Culiacan, then down to the Pacific port of Mazatlan. The many bridges on the coastal plain were an invitation to bandits during the years of revolution and counter-revolution between 1910 and 1920. A sure way to make the train a sitting duck was to blow a bridge behind it and another in front of it. Then it could be looted at leisure. Further extensions had to await more peaceful times.

To add to the difficulties, the next stage, from Mazatlan southwards, meant leaving the flat coastal lands and climbing abruptly through the mountains to Tepic. In this section the track climbs 3,000 feet in less than 30 miles. It was not until 1927 that the final stretch to Guadalajara was opened; it was one of the world's most difficult railroad construction operations, for it includes 25 tunnels in 20 miles of track. And when there were no tunnels to dig the line had to be thrown across chasms a thousand feet deep to regain a foothold on the mountainsides.

With all these difficulties, the railroad was the principal means by which Mexico's west received its main shipments of American equipment and machinery in the first half of this century. The return traffic came gradually to include more and more agricultural produce as the irrigation possibilities of the coastal plain were slowly explored. The real surge forward came after World War II. Indeed, people say that there has been more development on the northwest coast since 1950 than in the previous 300 years. Irrigation was intensified. This was pump irrigation which required larger quantities of electric power and more elaborate transmission systems. The World Bank, through a loan of $29.7 million helped to provide the extra power. Large storage dams were built. There are now eight of these on the northwest coast and plans are ready for five more. These in turn will be followed by yet another seven.

One way or another the cultivated area of the Mexican northwest coast was lifted from a total of half a million acres in 1925 to three million acres in 1957. Where only a few years ago the arid plain stretched to the sea, there is now mile upon mile of crops growing like the patches on a quilt—cotton, maize, sugarcane, vegetables and fruit.

This is the new granary of Mexico. But it is more than a granary; it is also becoming an important industrial area. The city of Guadalajara, the southern terminus of the Pacifico Railway, already has 750,000 inhabitants and is the second city of Mexico, with industry of all kinds being established around it. Obregon, halfway between Guadalajara and the U.S. border, had not a single cotton gin in 1950. Now it has about 50 and five cottonseed oil plants. Guaymas has seen great development as a port since it is from there that the cotton bales are shipped to foreign markets.

Huffing & puffing choo-choo trains

ALL this development came at a bad time for the railroad. The locomotives were all steam engines of ancient vintage and in such bad condition that they frequently had to be changed four times in a hundred miles. The track, laid many years before with rail too light for modern heavy operations was worn out to the point where derailments were of daily occurence. Bridges were in an advanced state of disrepair and fell easy prey to flooding rivers. In fact, things were so bad that in May 1952 it took, on an average, 29 days for a freight car loaded with copper from the mines of Cananea to reach Guadalajara, 1,170 miles away.

It was at this point that negotiations were completed for the transfer of the Pacifico Railway (from an American company which held the lease) to the Mexican Government, for 12 million dollars. Ferrocarril del Pacifico, as the new line was renamed, then embarked on one of the most spectacular railroad rehabilitation operations of this century.

Spectacular 'face lifting'

AS a first step in 1952, a New York firm made a complete survey of the needs of the railroad on which was based the rehabilitation programme, including track, bridges, locomotives, rolling stock, and communications. The programme was estimated to need four years to complete at a cost of about 80 million dollars.

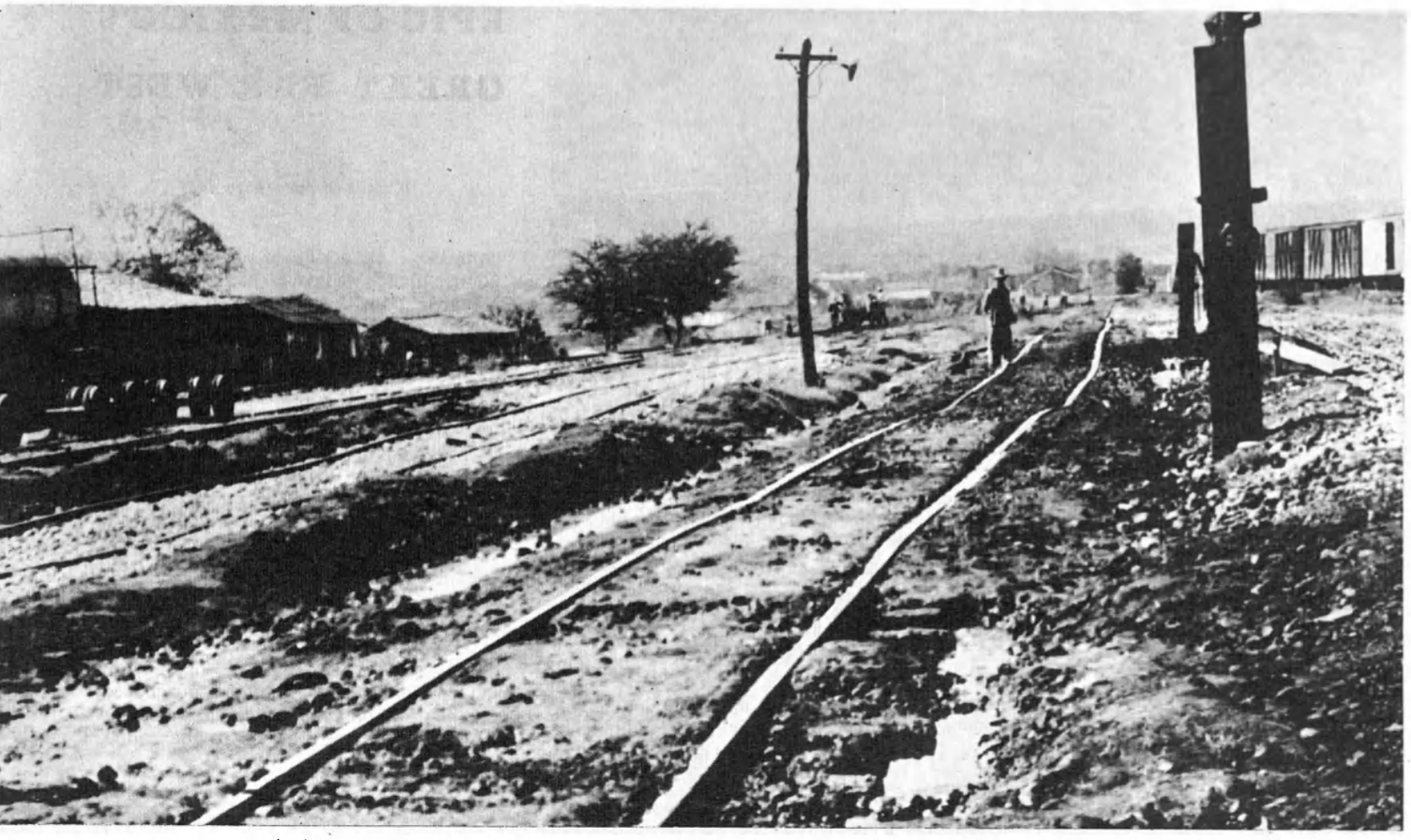
A number of short-term loans were obtained, but it was clear that the task called for long-term financing. The Mexican Government approached the World Bank. After thorough investigation, the Bank, in August 1954 made a 15-year loan to the Pacifico Railway of 61 million dollars.

One of the first and largest contracts financed out of the Bank loan was for 2,000 miles of new rail from a Canadian company. Nearly 1,000 steel boxcars were ordered from a Mexican company. Large numbers of diesel locomotives, freightcars and other equipment were purchased in the United States.

The work on the track had to be carried out quickly and while the line was in daily use by traffic. The rails had to be replaced along the entire 1,100 miles of the track. Three and a half million wooden ties had to be renewed, and new ballast applied to the roadbed throughout its entire length. During the most intensive periods of this work there were 1,825 men engaged in reconstruction, in addition to the 2,000 employees of the railroad who also participated. Bridge and trestle repairs were another large task, and permanent structures had to be built to replace the temporary sections in the bridges over several of the largest rivers.

Cont'd on page 16

By the end of 1957 this work was virtually

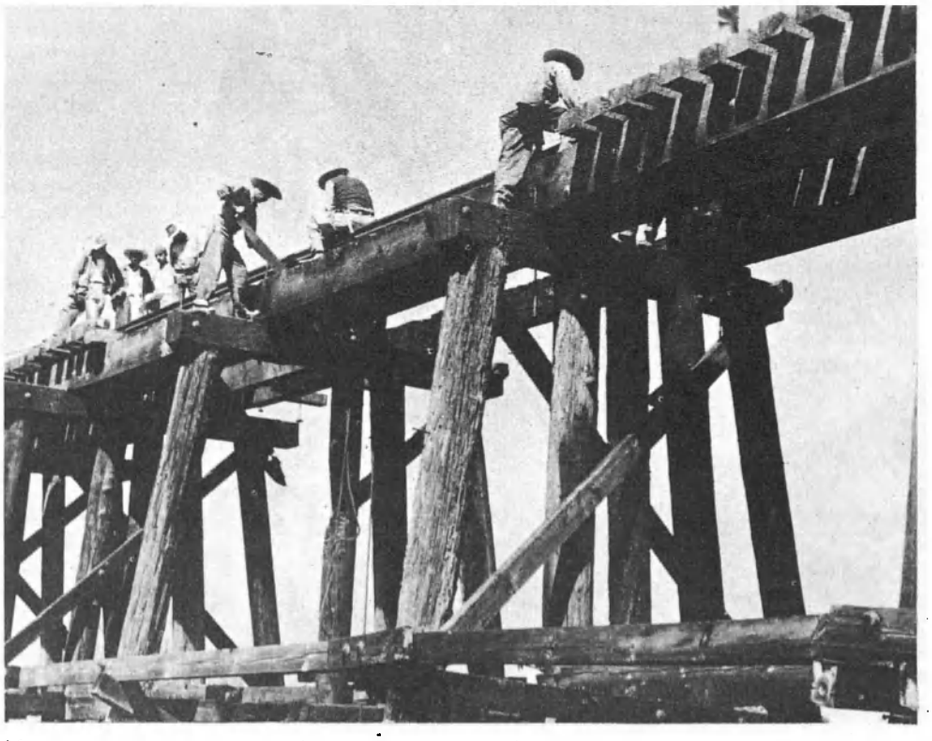


Running like a worn-out thread over a thousand miles from Guadalajara in the south to the U.S. border near Tucson, Arizona, Mexico's Pacifico Railway—lifeline of the nation's swiftly expanding northwest region—was in a precarious state only a few years ago. On long stretches, the tracks had buckled and tie plates were lacking. Most of the embankments were washed out or had simply disappeared, locomotives and rolling stock were sadly outmoded, and train schedules were chaotic. Thanks in part to a $ 61 million loan from the World Bank, the Pacifico stands today as one of the most striking railroad modernization operations of our century. While the line was in daily use, the rails were replaced along the entire 1,100 miles of track, four million wooden ties were renewed, and new ballast applied to roadbed throughout its entire length. A thousand boxcars and sixty diesel trains were purchased. Below, line being relaid and re-located to do away with extreme curves Above, tracks before modernization.

Photos World Bank

In one mountain section near Guadalajara the Pacific Railway track climbs 3,000 feet in less than 30 miles, penetrates 25 tunnels in 20 miles and crosses chasms a thousand feet deep. Building the line in this terrain was one of the world's most difficult railroad construction operations. Above, train crosses newly-built trestle bridge. Below, workmen replace wooden bridge ties.

Photos World Bank.



EPIC OF MEXICO'S GREAT FAR WEST

(Continued from page 14)

complete. In addition, an entirely new communications system had been installed throughout the length of the railroad, with automatic telephone offices at the main centres.

But re-laying the track and providing the necessary communications was only half the battle. The railroad also needed new equipment. The decision to transfer from steam to diesel electric locomotion was taken early, and the transfer is now complete.

Most of the old locomotives have already been broken up and sold as scrap to the steel mills, but there are still one or two graveyards of these rusty monsters to be seen awaiting breaking-up in the maintenance workshops. Altogether, 64 new diesel locomotives were purchased, 1,644 steel boxcars, and 78 passenger and mail cars were added to the rolling stock.

A new artery for new wealth

COPPER from Cananea now reaches Guadalajara in eight days. Agricultural produce which took 49 days for a journey in 1949, takes three days in 1958. In 1952, a merchant shipping goods on the Pacifico railway would take out a 30-day shipping credit from his bank to finance him until the goods reached their destination. As the end of the month drew nearer and nearer, he would be on the telephone to the railroad several times a day seeking information about his shipment, and often in vain, for headquarters probably did not even know where the shipment was.

Railroad officials now take gleeful pleasure in the fact that they mail the invoice to the shipper as soon as they receive his freight for shipment, and very often they have to telephone him to collect his goods from their destination, more than a thousand miles from the departure point, even before the invoice has reached him in the post.

When the World Bank loan to the Pacifico Railway was signed in 1954 it was the largest that the Bank had made up to then for a single project. Three years later the railroad was rebuilt and operating on a commercial basis. Measured in concrete terms, this is one of the most striking success stories associated with a World Bank loan, in Mexico or anywhere else.

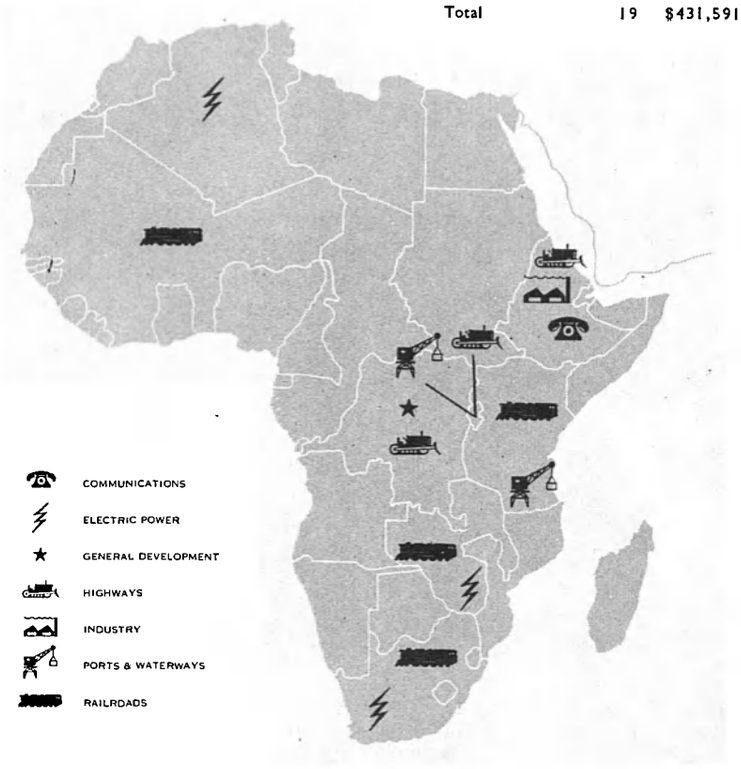
For the Pacific Railway is no less than a new artery for Mexico, an artery along which can flow a stream of new wealth for which few in the country would have dared to hope.

ZAMBEZI

(Continued from p. 11)

LOANS IN AFRICA

Country	No. of loans	Amount
Algeria	1	$ 10,000,000
Belgian Congo	2	80,000,000
East Africa	1	24,000,000
Ethiopia	4	23,500,000
French West Africa	1	7,091,567
Rhodesia & Nyasaland	3	122,000,000
Ruanda Urundi	1	4,800,000
South Africa	6	160,200,000
Total	19	$431,591,567



LOANS IN LATIN AMERICA

Country	No. of loans	Amount
Brazil	11	$182,471,054
Chile	7	73,654,456
Colombia	11	111,205,441
Costa Rica	1	3,000,000
Ecuador	5	32,600,000
El Salvador	2	23,645,000
Guatemala	1	18,200,000
Haiti	1	2,600,000
Honduras	1	4,200,000
Mexico	7	152,327,888
Nicaragua	10	22,990,115
Panama	3	6,847,426
Paraguay	1	4,492,191
Peru	8	40,910,299
Uruguay	3	64,000,000
Total	72	$743,143,870

way to the copper belt. An expensive alternative is burning wood or importing coal from overseas via Angola.

Because of this situation, the Government of the Federation in 1953 decided to turn to hydro-electric power. The Zambezi became a logical candidate for power development. Studies showed that a hydro-electric station at Kariba Gorge would provide enough power to meet expected requirements of the entire Federation until about 1970, and would relieve the pressure on the railroads by reducing coal haulage for power stations, now one million tons a year. It was estimated that $225 million would be required to start construction on the giant Zambezi dam.

Work at Kariba began in 1956 shortly after the World Bank had granted the Federation its $80 million loan. But the untamed Zambezi was apparently determined not to give in without a good fight.

In 1957, the African rainy season flooded to extraordinary heights, wiping out a great part of the work that had been done on the preliminary coffer dams.

After the floods had subsided, the walls of the coffer dams were doubled in height and work proceeded on schedule despite the damage. Then came the rains of 1958. This time the Zambezi outdid itself. Passing well above the flood peak of last year, the Zambezi unleashed 450,000 cubic feet of water a second into the Kariba Gorge. Desperate measures were taken but, almost as if it were laughing at these efforts, the great river drove the full force of its pounding fury against the enormous concrete blocks of the coffer dams and against two bridges built across the river. The tremendous pressure cracked fissures in the base of the coffer dams, which began to fill rapidly. Soon, too, the swirling waters poured right over the top of the central dam block throwing twisted sprays of water 20 feet into the air. The road bridge buckled in the middle, toppled into the swirling waters in two sections, and was swept downstream.

As a United Nations reporter, Allan House, commented the event in a recent U.N. broadcast: "It was an incredible sight. Geologists, old timers on the African rivers, and chiefs in the African villages that line the Zambezi say the flood is one that would occur only once in ten thousand years.

"Almost as quickly as it had risen, the great river dropped again, and work was set about pumping out the coffer dams in readiness to lay a new dam base... The walls are being thickened and raised even higher despite the fact that everyone agrees on the impossibility of a greater flood next year. Additional labour force has already been set to work to bring the construction of the Kariba Dam back on schedule, and the officials of the World Bank are confident that despite the efforts of the old Zambezi to wash it down the drain, their $80 million is safe, and will fulfil its useful purpose."

ONE OF GRANDEST VIEWS OF CENTRAL EUROPE

The dam construction engineer is closely bound up with nature. His work is carried out not in the laboratory or workshop but in wild natural surroundings, the beauty and harmony of which he makes every effort to preserve. Although a rising dam is inevitably accompanied by a mass of rubble and sometimes unsightly disorder, the completed dam in almost every case adds a touch of stylistic beauty to the majestic natural scene.

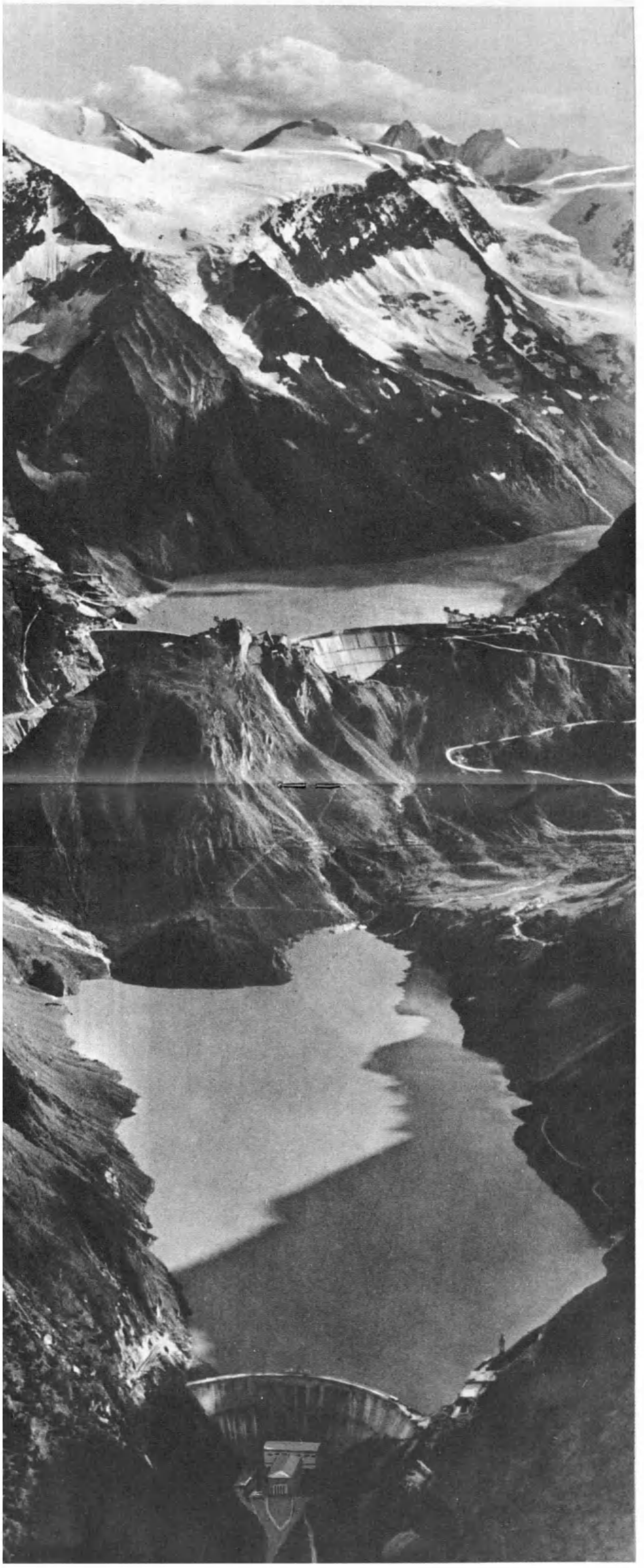
Aerial photograph, right, shows a remarkable view of three recently-completed dams in their magnificent setting of the Glockner-Tauern range in southern Austria's Tyrol : Limberg dam (foreground), Mooser dam (right) Drossen dam (left). The summit of Mount Grossglockner, rising to 12,460 feet (3,798 metres) nearby, affords one of the grandest views to be had in Central Europe.

Before the last World War, the Austrian Alps were one of Europe's chief remaining undeveloped natural resources. Today, with dams and power stations dotting its mountain lakes and rivers, Austria is well on the way to becoming the " International Power Station" of Central Europe. Austria already exports power to Italy and Germany, and other European countries and the Ruhr are prospective future customers.

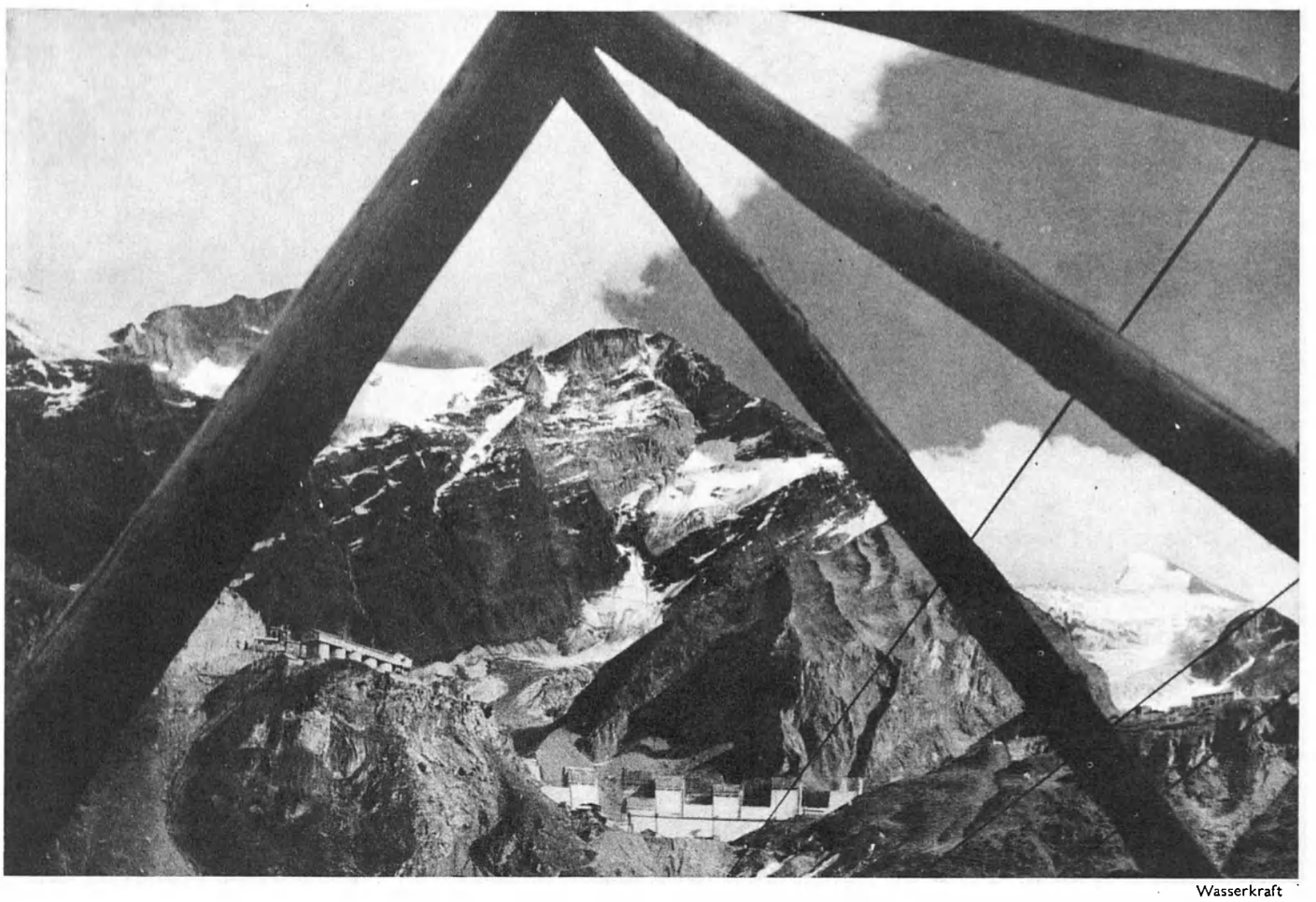
In 1947 all electric power companies in Austria were nationalized, and the Austrian Electric Power Corporation (Verbundsgesellschaft) set up under government's auspices. With its affiliated companies, the Verbundsgesellschaft and other public corporations today operate almost 80 per cent of Austria's total electric power. The World Bank has made five loans to Austria for electric power development totalling $56 million. These loans are helping to add 630,000 kilowatts to the country's installed capacity.

One $12 million loan is for the great Reisseck-Kreuzeck dam project, south of the Glockner-Tauern range. Four natural lakes high in the Reisseck mountains will be made to serve as reservoirs. The height of these reservoirs provides a head on the turbines of some 5,500 feet, the highest in the world. Photo below shows a group of hydro-electric engineers visiting dam wall of the winter storage plant at Reisseck-Kreuzeck.

Osterreichische Draukraftwerke



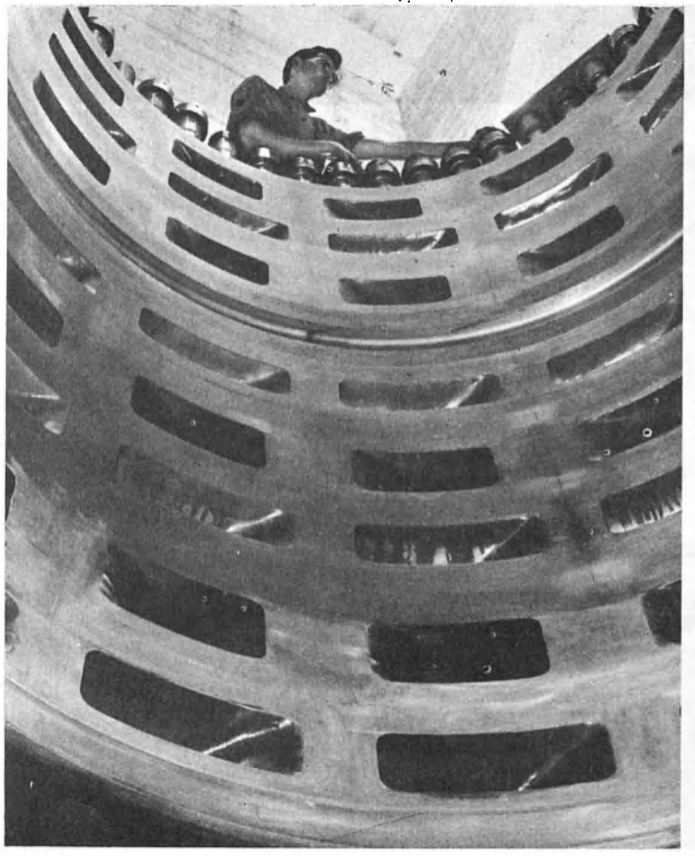
© Carl Pospesch, Salzburg



Wasserkraft

In 1954, after 60 hours of continuous rain, the "gentle" Danube rose to heights rarely known in history, flooding several Austrian provinces. After the last war, a multi-nation Danube Committee was set up for river development as well as flood control. The Jochenstein dam was completed by Austria and Germany jointly in 1956. Fifteen dams are now planned by Austria's engineers on the 213 mile stretch of the Austrian Danube. One of largest is World Bank-financed Ybbs-Persenbeug dam (left below), 80 miles from Vienna. Its six turbines will generate 192,000 kW. Also Bank-financed is Lunersee project (above and below right), in western Austria which will divert water from a glacier to Luner Lake dam reservoir.

World Bank



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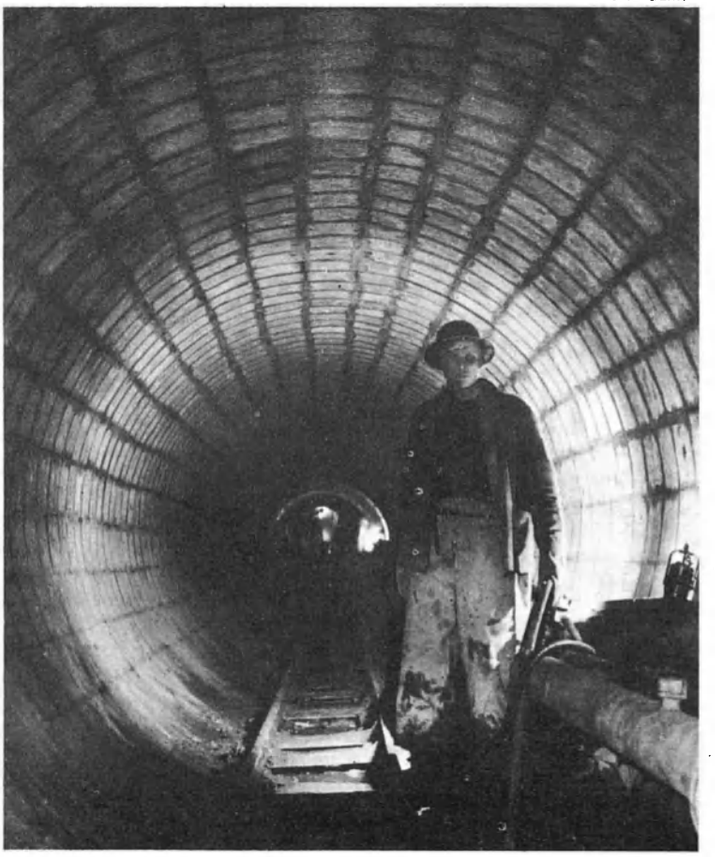
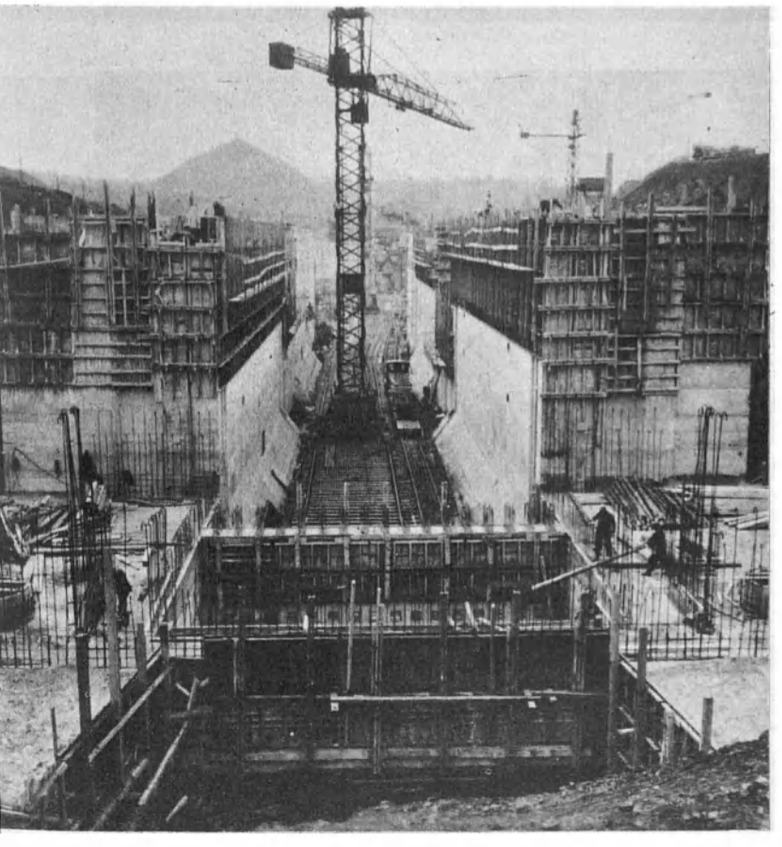


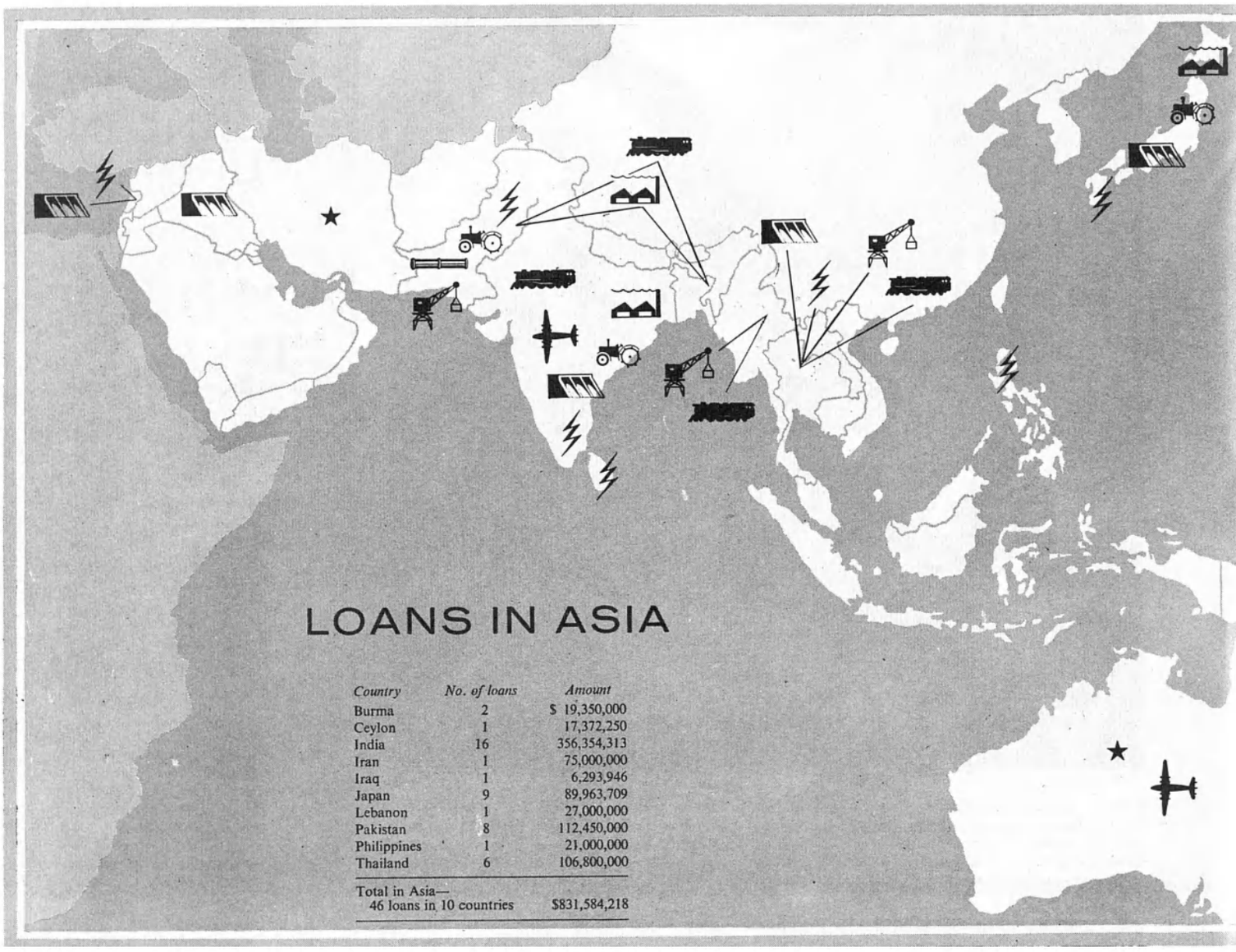
LOANS IN EUROPE

Country	No. of loans	Amount
Austria	5	$ 56,571,429
Belgium	4	76,000,000
Denmark	1	40,000,000
Finland	6	65,080,180
France	1	250,000,000
Iceland	5	5,914,000
Italy	5	238,028,000
Luxembourg	1	11,761,983
Netherlands	10	236,451,985
Norway	3	75,000,000
Turkey	6	60,822,383
Yugoslavia	3	60,700,000
Total	50	$1,176,329,960



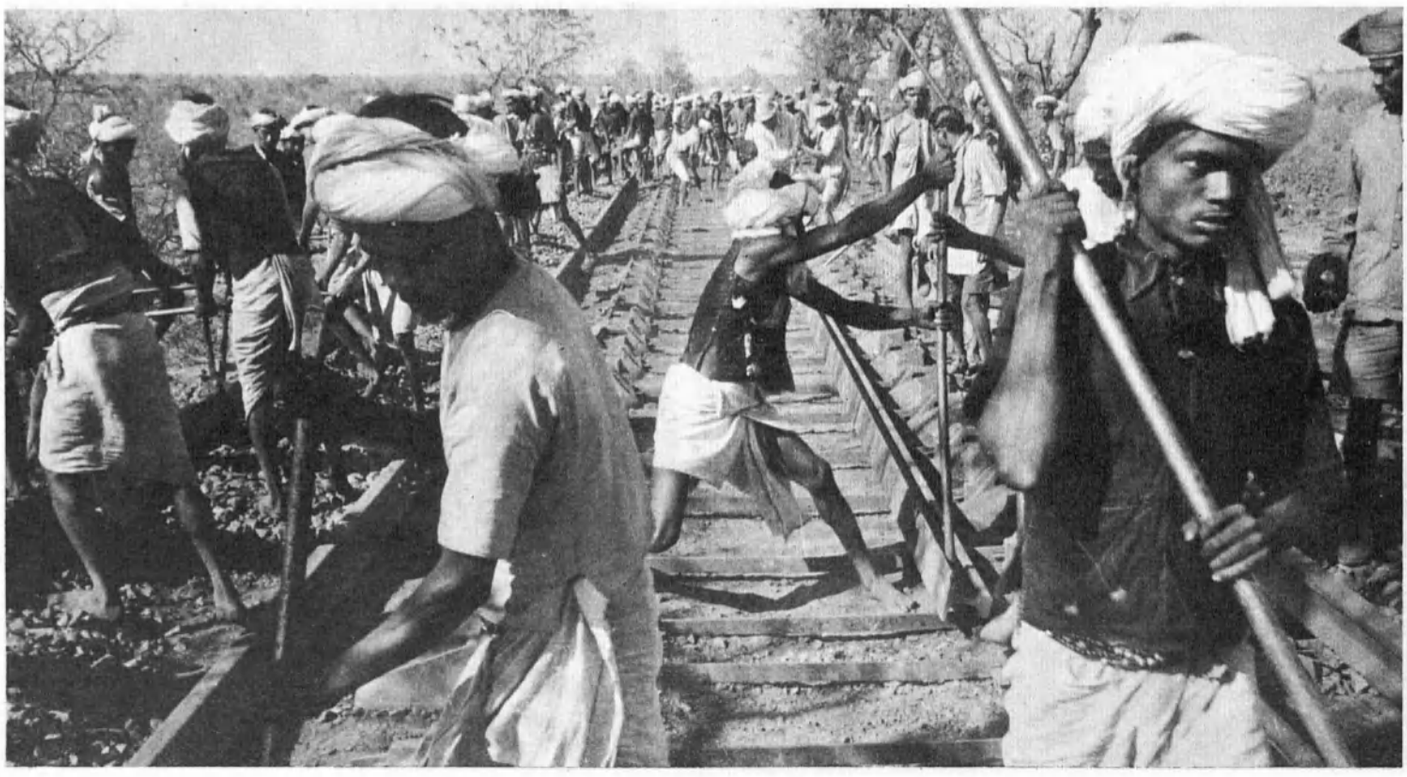
INLAND WATERWAYS AND CANALS are today the backbone of Belgium's transport, accounting for one-third of total freight traffic and carrying the bulk of the country's coal and steel production. Though Antwerp lies many miles inland it is the principal port having been made accessible to the largest freighters. Canals serving every part of the country radiate from the city. Every effort is being made to modernize the canal network. The World Bank is helping with loans totalling $30 million. Above, a section of the Charleroi-Seneffe Canal (linking southern Belgium with Antwerp and Brussels) which will be straightened and widened to accommodate large barges up to 1,350 tons. Photo on left shows a giant lock nearing completion stage at Gosselies.

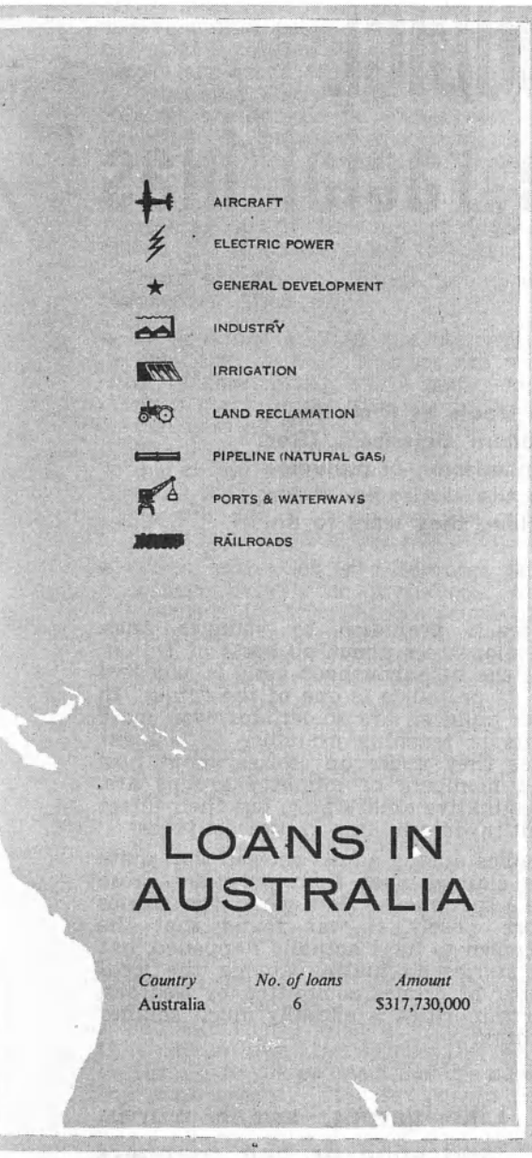
World Bank photos



LOANS IN ASIA

Country	*No. of loans*	*Amount*
Burma	2	$ 19,350,000
Ceylon	1	17,372,250
India	16	356,354,313
Iran	1	75,000,000
Iraq	1	6,293,946
Japan	9	89,963,709
Lebanon	1	27,000,000
Pakistan	8	112,450,000
Philippines	1	21,000,000
Thailand	6	106,800,000
Total in Asia— 46 loans in 10 countries		$831,584,218

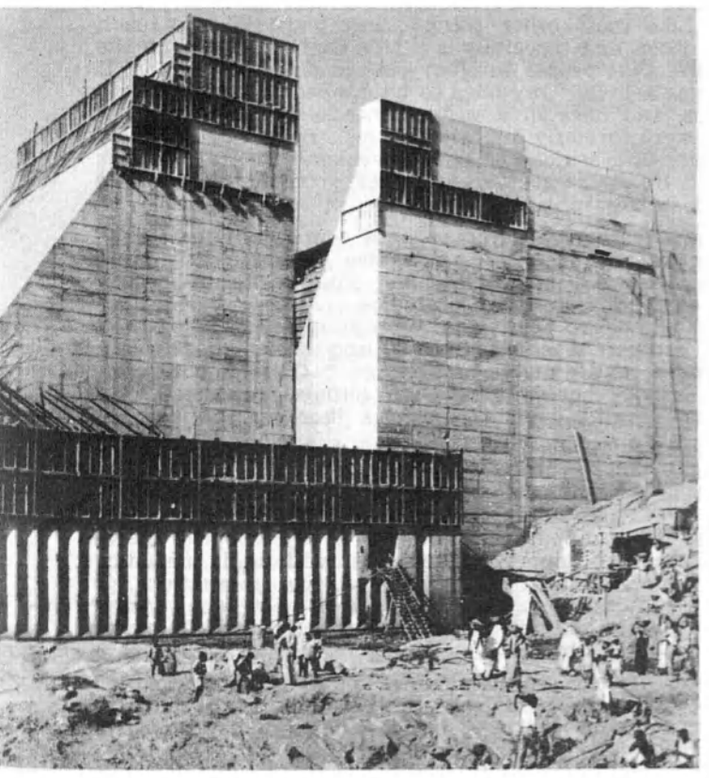




OPENING UP OVER A MILLION ACRES

India's railroad network is the fourth largest in the world and the most important of Asia. But the country's swiftly growing industrialization urgently calls for expansion and modernization of the rail system, for which the World Bank is co-operating with a $123 million loan. Gang of workmen (below, left) laying new track on the Western Railway, near Bombay. By beginning of 1958 the Bank had lent India the equivalent of $356 million, the largest sum accorded to a single country. Part of this sum includes a large loan for harnessing the Damodar River. This vast programme will be completed when the Panchet Hill Dam (centre photo) is finished next year, allowing the irrigation of over a million acres and increasing India's electric power output. Below, river barges, the principal transport of Thailand, by-passing the Chainat irrigation barrage on the Chao Phya river and recently completed with Bank funds.

World Bank photos



THE ROOTS OF PREJUDICE

How children come to have racial bias

by Arnold M. Rose

(3)

In this issue we continue the serialization begun in June of "The Roots of Prejudice", published by Unesco in its series "The Race Question in Modern Science". (See bibliography page 35). In this article, Professor Rose discusses transmission of prejudice to children, and the "Scapegoat" theory which he compares to the desire to kick a chair on the part of people frustrated or stopped from doing something they want to do.

IT is customary in countries where racism prevails to assume that it is natural and inevitable that one group should disdain or look up to another. We have already seen that prejudice is frequently a result of deliberate propaganda: yet the fact that it is often found in fairly young children gives rise to the incorrect assumption that it is inborn. Actually, prejudice is learned. Studies show that it can be learned by children as young as four years old.

The teaching of prejudice takes place in the same informal manner in which other aspects of non-material culture are taught. Children may be taught prejudice by their parents, their teachers, their friends, their Sunday school teachers. Parents are the most important influence. While some parents do not want their children to be prejudiced, others teach prejudice to their children because they themselves grew up to believe that it was proper and natural. Parents teach prejudice to their children by their own behaviour, by their expressions of disgust, by forbidding certain associations, by their choice of observations, by their indications as to what is humorous or degrading, and so on.

Sometimes older people will even make fun of children to get them to be prejudiced. But much of the time older people do not realize that they are teaching prejudice to children. At the dinner table, while the children are listening, a mother will tell her husband about her troubles with the Negro or Polish maid. Not only do the children absorb this, but they also come to imitate her behaviour towards the maid, which unconsciously expresses her prejudice in almost every act.

At church or Sunday school, Christian children may learn from the Bible story that "the Jews" killed Christ. Biblical scholars point out that only a few Jews were against Jesus, and that most of them thought He was a good religious teacher. It was the Romans who punished people at that time and they believed He was dangerous to their government. But Sunday school teachers do not always point out these facts. To make matters much worse, they sometimes identify the people of ancient Palestine with the Jews living in present-day Europe and America, and transfer the blame for a crime that happened two thousand years ago on to people who are living today. Other religious and folk teaching has similar myths which promote prejudice in children.

Some school text-books help to create prejudice. Surveys in several countries have revealed that text-books, especially history books, give derogatory descriptions of people of other nations and disparage minority groups within the nation itself. An immigrant group, for instance, is not usually described in terms of what its members hold dear and consider proper. Rather, the immigrant group is judged by the standards of the majority group. People may be loyal, hard-working, kindly and ambitious, but if they are poor and ignorant and have not yet learned the customs of their adopted nation, they are looked down on in some text-books as well as by most of the native-born people.

Older children teach prejudice to younger ones. Children quickly develop rules about all sorts of things, and each member of the neighbourhood gang is expected to follow the rules. If prejudice is one of the "rules" in the community, older children are sometimes even more forceful than parents in teaching prejudice to younger children. Sometimes they make up stories about how dangerous or stupid members of minority groups are. These stories are imaginative child's play, but their effect can be very powerful in determining future attitudes.

One study of prejudice among adults showed that quite a number of people claimed that their prejudice arose from bad childhood experiences. But when the stories were examined more closely, it was found that the incidents were not known to have actually happened, but where mostly scare stories circulating among the local children. The number of crimes committed by Negroes, Mexicans, and other minorities is actually much smaller than many people think.

Like games, swear words, and good or bad manners

THUS we see *how* children, and adults, learn prejudice. Like most other things, they learn it from each other, and especially is it true that the old teach the young. As it passes on from generation to generation, it changes a little. It comes to be applied to new minority groups, and once in a while it ceases to be directed at what were formerly minority groups. Sometimes it grows stronger and sometimes it gets weaker. But it is always taught in the same way as games, good manners, swear words, or anything else in the non-material culture.

The teaching of prejudice is, of course, not inevitable. Some parents, even those who live in dominantly prejudiced cultures, bring up their children to be broad-minded and free from prejudice. Also, children and adults who have been taught prejudice can un-learn it. Wise parents, teachers, friends, and books can explain the errors and dangers of prejudice. General education or a religious or humanitarian impulse can lead to a self-examination which sometimes dissolves prejudice.

Thus far we have been considering prejudice in its rational aspects—as serving a certain purpose, or as a result of ignorance or as a kind of tradition which is learned. There is also an irrational function which it fulfils, for it apparently satisfies a psychological need. This is a very important factor, for without it prejudice might die a natural death after a few generations, if people realized that they were dupes of a few persons who exploited prejudice or that they were blind followers of a harmful tradition.

People have different theories as to what constitutes the psychological basis of prejudice. Some of the theories have been disproved by scientific studies by psychologists and sociologists, yet are still believed by many people.

One such idea is that prejudice always arises instinctively against people who are different. This may be called the "dislike of differences" theory. When some people are asked why they dislike Negroes, they will say it is because Negroes are so black and dirty, or because Negroes are dangerous. Others will say they do not dislike Negroes, but that you cannot treat a Negro as you can a white man, because a Negro is like a child or an animal and cannot act like a man. All these statements are expressions of prejudice. They assume that there is something about the minority group which naturally causes the majority group to regard it as inferior.

There are several things wrong with the "dislike of differences" theory:

- It does not explain the stereotyping that goes with prejudice. Many Negroes are no more dangerous or dirty than many white men. Most Negroes are not even black, and a few are so light-skinned that they can pass as whites. If Negroes do not always behave like fully responsible people, that in itself is partly due to prejudice. Even if the prejudiced person maintains that most Negroes have these undesirable traits, he will admit that there are exceptions. Yet he is prejudiced against the exceptions too.
- There are a lot of differences among people against which there is no prejudice. And there are many places in the world where people of different races and religions live together without prejudice. Red hair is just as striking a characteristic as dark skin, and yet few people have prejudice against people with red hair.
- The "dislike of differences" theory does not explain the fact that prejudiced people make contradictory statements about those against whom they are prejudiced. Prejudiced people say they dislike Jews because the latter are "always trying to push themselves into places where they are not wanted", and also because "Jews are clannish; they keep to themselves". Prejudiced people observe that "Negroes are lazy, and have no ambition" and yet they are the first to strike down a Negro who tries to secure education or a better job or home.

Another largely fallacious theory of prejudice is that people become prejudiced because of unpleasant experiences with members of minority groups. It is true that a bad experience with a person can make one dislike that person ever afterwards. But why should the dislike be turned to all people with the same colour of skin or the same accent? If a fat person does one some harm, one does not forever thereafter hate all fat people. If one has a quarrel with a member of the Baptist church, one does not feel the need to fight all Baptists. Obviously, a lot more is needed to explain prejudice.

Kicking a chair in anger, or the 'scapegoat' theory

One of the most important steps in understanding prejudice was taken when the psychologists developed the "frustration-aggression" theory. In simpler language this is called the "scapegoat" theory. It is based on a great deal of sound scientific knowledge. Studies of human behaviour have shown that some people are steadily prevented from doing the things they want to do and are consequently not happy. This is called "frustration". Then they are likely to strike at something or try to make somebody else unhappy. That is, they become "aggressive". When, as often happens, a person cannot hit back at the specific thing that makes him unhappy, he finds a substitute. Among the ancient Hebrews, there was a periodical ceremony of driving into the desert a goat "burdened with the sins of Israel" to perish there. We still use the term "scapegoat" to refer to an innocent substitute who gets punished for someone's troubles or anger.

Everyone uses a scapegoat. An occasional action, when we are stopped from doing something we want to do or become angry for some reason, is to kick a chair or other convenient object or throw something on the floor. Small children do this frequently. Little harm is done if the scapegoat is not a living creature, but sometimes a man will beat a dog or a child, not so much because of what the dog or child did as because the man is angry about something else. One who is reprimanded by his employer will sometimes come home and pick a fight with his wife. He cannot talk back to his employer so he vents his anger upon his wife. The dog, the child, and the wife are scapegoats, and they suffer because they are scapegoats.

Occasionally a whole group of people, perhaps a whole country, feels frustrated. Perhaps such people do not know what the trouble is, or perhaps they do know but there is nothing that can be done about it. They may feel frustrated by bad economic conditions, unemployment, low pay, as many Americans in the Southern States have been for a long time. Or they may feel frustrated by failure to become the leading nation of the world, as the Germans were after losing World War I. Nothing they do seems to bring prosperity or glory to their land, and so they take it out on a scapegoat. It is frequently a low grade politician who says "Here is your scapegoat. It's the cause of your trouble. Kick it and you'll feel better." According to the theory we are considering, this is why there has been so much prejudice and violence against Negroes in the American South, and against Jews in Nazi Germany.

Learning to put up with inevitable frustrations

In any country, some people feel more frustrated than others. Some people are unable to earn even the basic necessities of life. Others get these, but fail to achieve higher ambitions. Some children are frustrated by not doing well at games, or by not getting enough affection or support from their parents. Some children feel that they are unfairly treated by teachers. There are various ways of meeting frustrations:

- By trying to eliminate the frustrations.
- By keeping away from the things that are frustrating.
- By understanding the inevitable character of the frustration and deciding that it is necessary to put up with it, at least for a while.
- By refusing to realize the cause of the frustration, and taking it out on some scapegoat.

Certain politicians benefit by leading people to scapegoats. One thing that helped Hitler to secure power in Germany was his persuading the German people that the Jews were the cause of all their troubles. In South Africa politicians are sometimes elected to office after a campaign devoted merely to raising white people's fears about Negroes. Some writers and radio speakers become popular and wealthy by telling people to hate the bankers, or the English, or the Jews. This may sound odd to anyone who looks at the situation objectively; but it does not sound odd to people who have troubles and do not know what to do about them. They feel a little better by having a scapegoat, just as each one of us feels better by kicking or pounding something when we are angry.

Thus, people often follow the politicians who make them feel better. But having a scapegoat does not really solve any problems. In fact, people are steered away from the solution of their real problems when they have a scapegoat. The only one who benefits is the politician or the writer, as he gains power over the whole people by being the leader in kicking the helpless scapegoat.

During times of business depression, when many people are unhappy and frustrated, there is an increase in violence against Negroes in the Southern States of the United States. The big depression of the 1930s saw the birth, in the United States, of 114 organizations which spent their time and money in spreading hate against Jews. Similar organizations were started by pro-Germans in all the free countries of Europe—some of them by agents of Nazi Germany, and others by people who hoped to benefit by German domination of the world.

The leaders of these organizations hoped to get control of the governments of their countries by following the anti-Semitic propaganda that had been so successful in Germany. They did not achieve all their aims—Hitler was finally defeated—but they did succeed in creating hatred and fear of Jews. It is known that many of these same people are now waiting for the next depression or the next war to come along so that they can finish their work. They know how to use frustrating conditions for their own advantage.

To be continued next month

Science has the answer

SOME ANIMALS SLEEP ALL WINTER—HOW DO THEY LIVE WITHOUT EATING?

by Gerald Wendt

THE ability to hibernate is a peculiar one, shared by only a few mammals, and two species of birds. It involves much more than just a long sleep from the first cold of the autumn to the first warmth of spring. The animal's body temperature actually falls to within a few degrees of freezing point. Yet the heart continues to pump blood through the arteries and veins, although the human heart ceases to function when it is chilled. The animal is nourished by its body fats even at a temperature such that the fats are hard and immobile. The unusual physiology of the true hibernators is under study at Harvard University (U.S.A.) by Dr. Charles F. Lyman.

His experiments were made with the golden hamster—a species of rodent. Other animals that go into this profound state of depressed existence for the winter are the hedgehog, marmot, woodchuck, the dormouse, the European and the Arctic ground squirrel, a few varieties of bats and, among birds, the hummingbird and the whip-poorwill.

Eight heart beats per minute

THE hamster enters this state at any time of the year when he is kept in a room at 41°F. His own body temperature goes down to about a degree above the room temperature, his heart beat is reduced to eight or nine per minute, he takes less than 10 breaths per minute, his blood pressure is extremely low and his rate of metabolism (using nourishment to maintain life) drops to 3% or even 1% of normal. He is, of course, unconscious and in a state of extreme torpor. But if the temperature of the room drops below freezing point his metabolism increases three or fourfold so that he manages to keep his body temperature at 37.4°F.

At this low temperature the hamster's nerves still function although the nerves of a non-hibernating animal, such as the rat, are insensitive and useless when they are cooled below 50°F. Thus the little animal can be wakened by prodding him with a finger or a stick of wood. But it takes about three hours for him to awaken fully. After about an hour he takes about 35 breaths per minute and his body temperature has gone up to 50°F. Within two hours he breathes over 100 times a minute, his pulse is up to 550 beats per minute and his body temperature is 86°F. At this point he begins to try to stand but he cannot yet control his muscles. After two and a half to three hours he is at last at a normal temperature of 98°F. and is normal in behaviour.

Very fat before hibernating

BY testing the cortex of the animal's brain, Dr. Lyman showed that its activity ceases when its temperature drops below 68°F, although its sensory nerves are alert far below that point. This explains why muscular control is lost early in the process of falling asleep and returns only in the last stages of awakening. Another mystery in hibernation is the ability of the hamster to change his solid body fats into other forms that are semi-liquid, like butter, when the body temperature is near freezing point. Without this ability hibernating animals would not be able to maintain themselves on their body fat in place of food. Many of them become very fat before they go to sleep. The hamster does not, but wakes several times during the winter in order to eat from the stores accumulated in the burrow with the approach of winter.

★

More and more use is being made in the kitchen of soapless detergents. Why do these detergents wash cleaner than soap?

INSTEAD of the old-fashioned bar of soap and the scrubbing board, modern housewives now use soap powders (still based, as for centuries, on chemically-treated animal fats or vegetable oils), but more frequently they use detergents.

Let us be quite clear, however, when speaking of detergents, that soap itself is a detergent. That is, it removes dirt—which is what "detergence" means. Strictly speaking, therefore, these new chemicals should be called "soapless detergents". They were made by nature millions of years ago, and come from mineral oil, deep in the heart of the earth. They are produced during the distillation of petrol or gasoline. Their commercial use has developed since the Second World War, and their development was encouraged by the shortage of fats and oils during and immediately after the war. But they are not just substitutes for soap. They have scientific values in their own right. They make water wetter.

Secret of detergents—wet water

WATER. in order to dissolve or remove dirt, has got to permeate it. It has got to wet it. But oil and grease repel water—that is why a sheep's fatty fleece acts as a waterproof. And that is why water runs off a duck's oily back. If you were unkind enough to wash a sheep or a duck with chemical detergents, the sheep's fleece would no longer waterproof and the duck would sink because its feathers would become waterlogged.

Now why does this happen? To understand the action of detergents you have to know something about what is scientifically called "surface tension". To make "surface tension" very simple, one might think of a globule of oil or a blob of grease as a tiny balloon. Just as the balloon has a thin rubber coating, so the oil or grease has an invisible skin which prevents the water from penetrating. What the detergent does by its chemical action is to destroy that skin—remove the surface tension—so that the water, being now wetter, can dissolve the oil or grease. So a greasy plate, or an oily cloth, is properly cleaned by a detergent.

This, of course, has very important uses in industry as well as in the home, and there are some medical scientists who hope that the detergent action may even be of some value within the human body. One of the things which cause diseases of the arteries and the heart is the clogging of the blood vessels with fat—like the furring of a waste pipe with grease—and the doctors are looking for a detergent which, carried by the blood stream, would prevent this clogging of the blood vessels. But they know they have to be very careful. Mineral chemicals of this kind are always liable to have injurious effects on the body. That is why it is advisable to wear rubber gloves when washing with detergents in the kitchen sink or in the washing machine.

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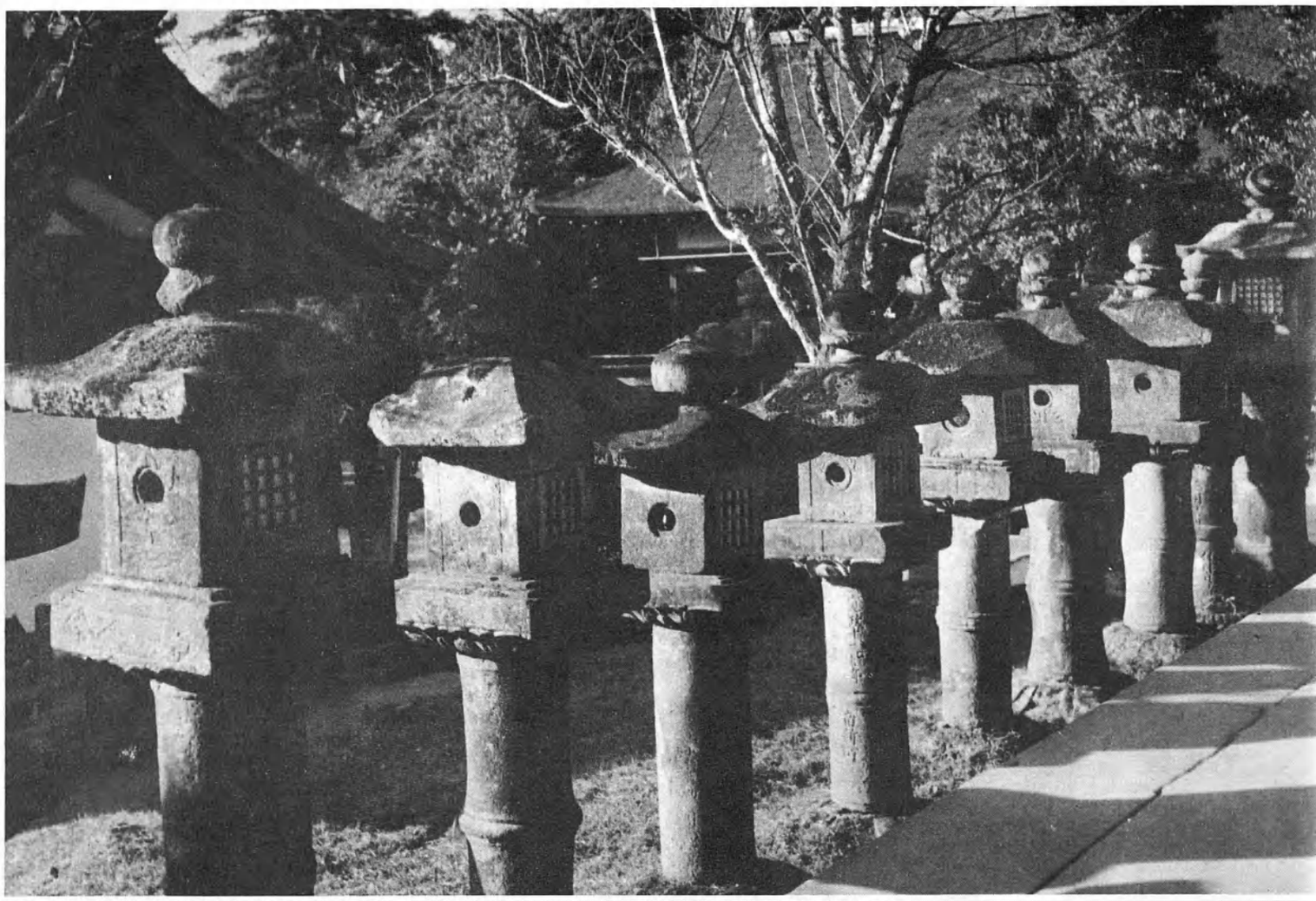
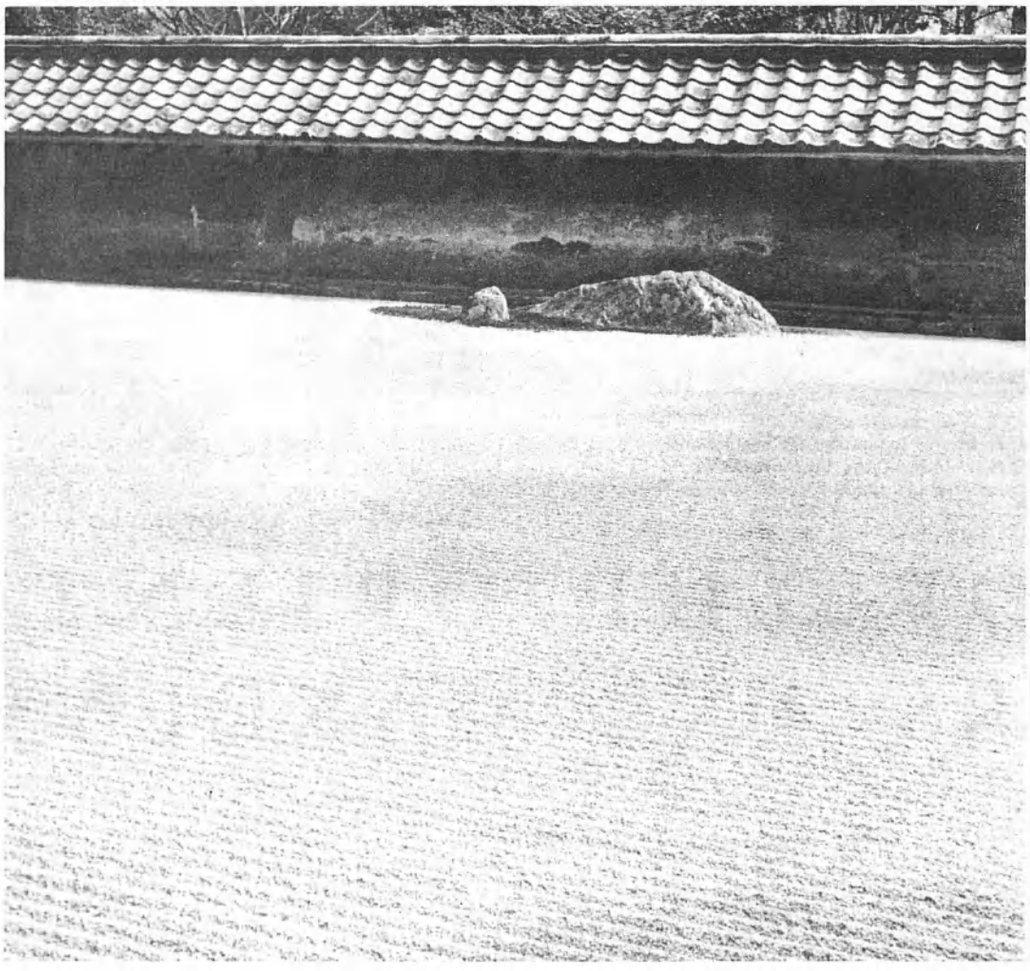
DELICATE TRACERY OF SNOW adds to the incomparable beauty and serenity of this landscape-painting view taken from the 15th-century Silver Pavilion Monastery (Gin-kaku) at Kyoto. One of the best preserved of its period the garden is noted for its remarkable stone groupings, its stone bridges and waterfall each known by a special name such as dragon-back-bridge, moon-view-terrace, silver-sand-beach, moon-wash-fountain.

SOUL OF THE ORIENT: FLOWERS AND GARDENS

by Baldoon Dhingra





MOUNTAIN ISLES IN A SEA OF SAND

In this remarkable garden of the Ryoan-ji Tempie (15th century) at Kyoto there is not a tree or a clump of grass; simply an expanse of white sand in which carefully selected rocks have been arranged in groups of two, three or five. The sand, supposed to represent the surface of water (pond, stream or ocean), has been lightly scratched with a bamboo rake to imitate the gentle ripple of waves; the stones appear like mountain isles rising from a sea of sand. According to connoisseurs, not one of the rocks can be moved without breaking the spell created by the perfect design. The tranquillity of the garden is intensified by the bare earthwork walls surrounding it. The Ryoan-ji has been called "the highest form of beauty in this type of Japanese garden art." Above, an array of stone lanterns provides a note of added grace along the main garden walk of the Kasuga Shrine at Nara.

© Oliver G. Wackernagel, Basel

EVERY description of Oriental customs, past or present, shows the close relation of man to the appurtenances of daily life. Be they clothes, furniture, paintings, flowers or gardens, they are regarded and esteemed as friends more than as inanimate means to practical purposes. While all Orientals love and revere flowers, they look upon them in different ways, depending upon their national character and temperament. Let us take three countries—Japan, India and Persia—and see what flowers or gardens mean to the peoples of these lands.

Flower are almost a religion with the Japanese; they worship them with sacrificial fervour. They watch for the blossoms appropriate to each season, and when for a week or two in early April the cherry-tree blooms, all Japan seems to leave its work to gaze at the blossoms or even to make pilgrimages to where the trees are most abundant and complete. The cherry-tree is cultivated not for its fruit but for its blossoms. "The heart of man", says the poet Tsurayuki, "can never be understood; but in my native village the flowers give forth their perfumes as before." This love of nature is one of Japan's great cultural values. Few people have shown so much love for cultivating flowers and gardens, or nourishing plants and cultivating plants at home.

A single spray of plum blossoms; a branch bearing only a few red leaves; a polished stone shining with the clearness of water and decorated only by a wisp of seaweed—these small and simple things can convey meanings of spring, of autumn, of thankfulness for a storm subsided. Many have a deeper significance.

The art of flower-arrangement taught men and women how flowers should be grown in the garden and placed in the home; it was not enough, they said, to admire the blossoms, "but one must learn to see as much loveliness in the leaf, bough or stalk as in the flower, as much beauty in a flower as in a thousand, and one must arrange them not merely to colour but to grouping and line."

MORE A POEM THAN A PICTURE

No effort to create an impossible or purely ideal landscape is made in the Japanese garden. Its artistic purpose is to copy faithfully the attractions of a veritable landscape, and to convey the real impression that a real landscape communicates. It is therefore at once a picture and a poem; perhaps even more a poem than a picture. For as nature's scenery, in its varying aspects affects us with sensations of joy or of solemnity, of grimness or of sweetness, of force or of peace, so must the true reflection of it in the labour of the landscape gardener create not merely an impression of beauty, but a mood in the soul.

Lafcadio Hearn in "Glimpses of Unfamiliar Japan"

Ever pruning clipping and weeding

PERHAPS no other art, except painting, expresses the Japanese temperament as flower arrangement. The principle is one of suggestion. The word "flower" is used in a broad sense, to cover not only flowering plants, but also blossoming and even flowerless trees and shrubs. Whether the material for an arrangement consists of several flowers, a single branch of a flowering shrub, or a handful of grasses, it should be so disposed in the container that it symbolizes Heaven, Earth and Man. In the case of a plant or miniature tree, the main stem represents Heaven, a short branch growing (or bent) upwards on one side of the main stem signifies Man, while a third still lower and shorter branch on the opposite side denotes Earth.

The intention of the best Japanese gardens according to Alan Watts, a *Zen* scholar is not to make a realistic illusion of landscape, but simply to suggest the general atmosphere of "mountain and water" in a small space, "so arranging the design of the garden that it seems to have been helped rather than governed by the hand of man." The Zen gardener has no mind to foist his own intention upon natural forms, but is careful rather to follow the "intentionless intention" of the forms themselves, ever though this involves the utmost care and skill. In fact the gardener never ceases to prune, clip, weed—but he does so in the spirit of being part of the garden himself rather than a directing agent standing outside. He is not interfering with Nature, because he is Nature, and he cultivates as if not cultivating. Thus the garden is at once highly artificial and extremely natural.

In India and in many countries of South and East Asia flowers are looked upon as the glorious creations of divinity. They are used for ritual and prayer. No worship is complete without an offering of flowers to the temple. Some deities, like Vishnu and Lakshmi, have special flowers assigned to them. But of all flowers the lotus is held most sacred. It is recognized as pure and chaste for, while it springs from muddy water, it is unsullied by dust and dirt. The lotus is the symbol of the Hindu and Buddhist ideals—to live in the world among the things of the world, yet to be untouched by them.

Seasonal flowers for favourite deities

DEVOTEES offer seasonal flowers to their favourite deities. Garlands are placed round their necks and flowers fall like rain upon them. Guests and friends are garlanded and fragrant flowers are used at all ceremonies and festive occasions. Buddhists offer sprays of white flowers upon the altar with the prayer: "These flowers so full of beauty and sweet scents I place in offering at the feet of the Lord. May my spirit be fragrant as this flower. May I never forget that, as the flower fades, so will my body die; may my life be more than the body."

In daily life, women, young and old, use flowers to braid their hair, and string them for necklaces, bracelets and anklets. Many Orientals identify themselves with nature in every form.

Trees, shade and water constitute the Persian garden. The Persian paradise (the word itself is derived from the Persian language) speaks of flowers and gardens. This is to be expected since the Muslim paradise, as revealed in the holy Koran, is a promise of gardens and flowers. Sir Edwin Arnold renders one passage thus:

Never in that garden hear they speech of folly, sin
[or dread,
Only peace: Solaman only; that one word for ever
[said.
Peace—peace—peace—and the companions of the
[Right Hand (ah, those bowers!)
They shall lodge 'mid thornless lote-groves, under
[mawz-trees thick with flowers.

All that a Persian, that dweller on a high, rocky plateau, demands is coolness, greenness and the sound of trickling water. Traditionally a garden was used for discussion, poetry recitals and conversation.

Great poets like Omar Kahyyam and Firdausi asked to be buried in a garden. Speaking of Omar's tomb a twelfth century poet said, "his tomb lay at the foot of a garden wall over which pear-trees and peach-trees thrust their heads, and on his grave had fallen so many blossoms that his dust was hidden beneath the flowers."

Of all flowers, the Persian prefers the rose. The lyrics of the great poets describe endlessly the beauties and perfumes of the wondrous rose.

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Nigeria's young ambassador-in-art

© Sport and General, London

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EBONY DRUMMER (opposite page) is a carving by Felix Idubor, a young Nigerian sculptor whose work has won high praise from European art critics. A leading artist in his own country, he came to Europe last year on a Unesco fellowship and studied in London where he held a one-man exhibition at the Imperial Institute. Examples of his work are shown here. As a result of his voyage, Idubor has learned new methods of bronze casting and expects to open a foundry in his African studio.

EARLY last year, a young Nigerian sculptor named Felix Idubor, dressed in his colourful native clothes, arrived in London to begin a special course of study at the Royal College of Art. A well-known artist in his own country, Idubor was making his first trip outside of Africa as the result of an international fellowship grant accorded to him by UNESCO (1).

When Felix Idubor paid a visit to UNESCO House in Paris recently, he had not only enriched his knowledge and techniques through studies in the United Kingdom, Belgium and France, but had also become something of an "Ambassador" for West African art, through a highly successful one-man exhibition at London's Imperial Institute. Several thousand visitors attended this exhibition and art critics from several countries warmly praised the works he had carved in ebony and other African woods.

Felix Idubor was born 30 years ago in Benin City, in Southern Nigeria, a traditional art centre of West Africa. Negro art is predominantly plastic and the classical art of Africa, in the purest sense of the word, is wood sculpture. There are several centres of Negro sculpture on the Continent, but most are in the Western half and one of the most prolific is Benin. Some art critics consider that at Benin itself and at Ife, in the Yoruba country to the north, African sculpture reached its highest level.

The 41 pieces of sculpture, all of West African motif, which Felix Idubor exhibited in London revealed him as a worthy 20th-century heir to this art tradition whose history has been traced back at least 600 years. The exhibition also gave a European public the chance to see figures and forms of Nigerian history and legend created by a self-taught youth who, at 28, had already become one of the foremost artists in his country.

Felix Idubor began carving at the age of eight, and he was earning a living at his craft only four years later. His reputation was quickly established at Benin City and, before long, he moved to Lagos, the capital of Nigeria, where he became known to a much wider public.

His first one-man exhibition was held at Lagos in 1953 under the auspices of the British Council. Other exhibitions followed and in 1956 he was appointed instructor in sculpture at the Yaba Technical Institute of Lagos.

At the Royal College of Art in London, where he went in 1957, Idubor soon became noted among the students for his speed and skill in executing the West African forms on which he continued to work. For on this point he has very definite ideas. "From my experience in Europe," he says, "I feel it is tremendously valuable for artists to come from Africa to study Western art, but I have one reservation: I hope that African artists will not be overwhelmed and lose their own traditional forms and inspirations."

Cont'd on next page

(1) *Some 2,000 fellowships and travel grants have been made by* UNESCO *in the past 10 years to experienced men and women in fields ranging from oceanography to nuclear physics and from teaching to journalism. Twelve art fellowships have been granted by* UNESCO *in the past four years.* UNESCO *fellowships are not usualy granted to undergraduate students but to professionnal men and women who are already established in their fields.*

ART AMBASSADOR
(Continued)

MEMORIES OF TRADITIONAL HEROES

He points out that most of the arts of Africa were inspired by ancient secret cults like the "Ju-ju", and as such they depicted the spirits of ancestors. "Until the last century," he says, "wealthy people supported artists in Africa. They bought works of art for their secret cults and to keep alive the memory of traditional heroes. Artists in African communities were kept busy; they were honoured and respected by all. Art in Africa is based on the inspiration of the artist at the time of creation. He expresses his feeling and his interpretation of an object spontaneously."

Perhaps the most striking of the ancient works of art produced in Benin are the bronzes, either life-size human heads or complete models of animals and human beings, or again, reliefs of complete scenes, animals, humans and mythological or magical symbols. The existence of these bronzes only became generally known in Europe towards the end of the 19th century, although brass casting was introduced into Benin in about 1280 A.D.

The ruler of Benin at that time, Oba (King) Oguola sent to the Yaruba city of Ife for a brass-smith as he wished to produce bronzes himself instead of importing them from Ife. (See THE UNESCO COURIER, July 1957, page 18.) The craftsman who came to Benin was named Iguo-igha. He was a very skilful worker and left many designs to his successors. As a result he was deified and is worshipped to this day by brass-smiths.

A later ruler, Esigue (c.1504) is said to have encouraged and improved brass working until the art of Benin reached its prime in the 16th century. Ivory and wood carving had already been introduced by an earlier king.

Benin was visited in the 15th century by a Portuguese navigator, Alfonso d'Aveiro and later by other European voyagers. At one time it was thought that the brass casting had actually been introduced by Europeans, and there was also a theory that it had come by a roundabout route from India. But dating of the earlier Benin bronzes shows that the people of Benin (the Bini) practised this art before the arrival of the Portuguese.

This is another aspect of Nigeria's art tradition that fascinates Felix Idubor. As well as teaching young Nigerian artists something of what he has learned in England and on the Continent, he now wants to set up a bronze foundry in his Lagos studio. "I have now learned new methods of bronze casting which will enable me to work faster and compete with established foundries," he says.

AFRICAN FIGURE takes shape as Felix Idubor works in a studio at the Royal College of Art in London. While studying in Europe, he continued to draw on traditional Nigerian forms and subjects. Most of the materials he uses are woods from his own country—i.e. ebony, opepe, obeche and iroko.

Letters to the Editor

OVERLOADING YOUNG MINDS

Sir,

How can education help the world to unite individuals, groups and nations in order to bring peace, harmony and understanding?

Are our school systems yet in accordance with this ideal? Are we not overloading our pupils with knowledge and do not we give them stones for bread?

Childhood is a kingliness in itself. It is a gift from above that the child is growing, and during the time of his growth, that he is unaware of the woes and worries and anxieties of life. These are the only days for experiencing the kingliness of life. It is a source that refreshes, when life full of struggle comes.

If childhood is already devoted to study, study of material knowledge, what about mankind later on? Let us stop to think of this question.

Tj. Kobus
Hollandia, New Guinea

WHY A 'MANKIND DAY'?

Sir,

A reader of THE UNESCO COURIER has suggested that "Mankind Day" be set aside and observed all over the world. There would be some humour in this phrase if it were less macabre—it sounds like something another species would observe in our honour or our memory.

On calendars in the United States, "Mankind Day" would have to take its place along with National Cat Week, Fire Prevention Week and Eat More Cheese Week. Mass communications make it possible for us to put these things over in a big way. And it is also possible that nobody would ask, "Why are we celebrating Mankind Day?" We are conditioned to these things and serve on committees from habit.

Walt Whitman's "I Celebrate Myself" is a paean of hopefulness and dignity. "I celebrate mankind" is meaningless. Mankind is a non-entity, mindless and totally ineffectual. The lonely mind of one man, all separate from his external circumstance, is the only effective, creative force. Any day the lives of two men touch, there can be either a celebration or a corrosion of this vital force.

Every day is my day and your day and his day and her day. "Mankind Day" is a comfortable evasion of the issue.

Ann K. Jones
Henrietta, New York

CORSICAN LINKS TO INDIA

Sir,

While reading in the June, 1957 issue of THE UNESCO COURIER one of the tales of Father Beschi (An 18th century Italian missionary-priest in India, who gave the Tamil language its first works in prose) I came across a curious parallel. Father Beschi's story has much in common with a Corsican tale I published some years ago in the newspaper *La Corse*.

Similarities between the folklore of two such widely-separated peoples may at first sight seem strange. But on examining some of the ethnic features of the Corsican people one finds certain affinities between them and the people of India, for instance, in regard to their skin colour, their hair, their height and build, and the shape of their eyes. The ancient dress of Corsican women included a large shawl—and very often it was a Kashmir shawl. We came across many of these shawls when we were setting up a Corsican group in local costumes in 1934.

Even today the origin of the Corsican people remains a mystery. On our island there are at least two distinctly different races, and we differ from our Mediterranean neighbours. A study of language, music, costumes, customs and physical characteristics could, I feel, bring facts to light about hitherto unknown migrations or, at least, about very ancient trading activities between Europe and Asia.

J.S. de Lano
Paris, France

TOO HIGHBROW...

Sir,

I have to admit that THE UNESCO COURIER has a remarkable make-up and is illustrated with photographs that are always first-class and quite often superlative. The articles are top quality and the subjects presented have undoubted artistic or scientific significance. However, I am not renewing my subscription because these same articles and subjects are too "highbrow" for my taste. Articles describing Ming Period pottery or the Aztec civilization interest only a limited number of readers including, of course, teachers, archaeologists and other erudite persons.

I should indeed like to know whether your magazine is trying to reach a "super elite" or whether you really do see it as an instrument of artistic and social popularization.

I note too that certain subjects of lively topical interest seem to be taboo as far as you are concerned. You gave up an entire issue to nuclear energy and the use of radio-active substances, but why didn't you devote another one to bringing home to readers the dangers of atomic experiments and radio-activity—an issue in which you could have published the opinions, for or against, of the world's leading scientists? And why don't you deal with the problems of racial segregation, the ravages of drug-taking and alcoholism and the slums and undernourishment that exist in certain parts of the world? These are studies you could give like news reports rather than use an academic presentation resembling a drawing-room lecture.

I hope these few criticisms will assist you in planning and presenting your future issues.

R. Bloch
Chennevières-sur-Marne
France

...NOT HIGHBROW ENOUGH

Sir,

I am renewing my subscription to THE UNESCO COURIER in which every line is imbued with a spirit of altruism. *Sursum corda!* Along with the other members of my Circle (*Cercle de Correspondance Culturelle*) I feel you must raise the cultural standard in every field, avoiding commonplace repetitions, tedious statistics and the "spectacular" side of human achievements. Deal with educational and philosophical problems which are truly those of civilized men. The black magic and wizardry of Africa and Asia are fascinating, but as out-of-date as the superstitions of our forebears.

Be an arrowhead of great ideas, those as original as your fine photographs.

M. Aubertin
Paris, France

LESS ART—MORE NEWS

Sir,

What I used to enjoy most in your magazine was the knowledge I derived of other countries; their customs, their religion and their history; example the article on Buddhism, or the history of Jamaica, or the evolution of women in different countries.

I am sorry to say that too much has been written on art, and not enough on modern history, which aim is to consolidate international relations.

May I suggest you devote whole articles to Jordan's history, for example, when and how it was formed, the type of government that rules it now; or Saudi Arabia, or any country in the Middle East that is in the news.

Mrs. A. Metcalfe
Durban North, South Africa

EDUCATIVE AND INFORMATIVE

Sir,

I have always been thinking of writing you a letter, in order to thank you and congratulate you on producing such an educative and informative magazine. And, as a token of gratitude, I have always been introducing your magazine to my friends and to those with whom I make new contacts, and I am very happy to say that, as such, I secure for you new subscribers.

M. E. Kitabwalla
P. O. Box 70,
Mombasa, Kenya

From the Unesco Newsroom...

WHO. FIGHTING SMALLPOX: Two million doses of dried smallpox vaccine were recently sent to Pakistan by the World Health Organization to help the Government combat the worst smallpox epidemic the country has known in over ten years. Records available show that there have been more than 35,000 cases resulting in over 15,800 deaths. By mass vaccination it is hoped to prevent a repetition of the 1944 catastrophe when 140,000 deaths from smallpox were registered for the whole of Bengal, since divided into East Pakistan and the Indian state of West Bengal.

■ **PABLO CASALS' COMPETITION:** *The second Pablo Casals' International Competition for cellists will be held in the picturesque city of Xalapa, in the state of Veracruz, Mexico, during January* 1959. *It is open to 'cellists of all nationalities born between January* 1, 1929 *and January* 1, 1944. *The first of the Pablo Casals competitions which aim to help talented young instrumentalists in their careers, took place in Paris last October.*

ASIAN BOOK ADVISERS: A regional centre for the production of reading materials in South Asia is being opened this month in Karachi by the Government of Pakistan and UNESCO. The centre will provide an information service for the production and distribution of literature in Bengali, Burmese, Sinhalese, Tamil, Hindi and Urdu. It does not intend to produce books itself, but to assist in the improvement of techniques so that low-cost books in simple languages will be made available to Asia's growing reading public.

■ **PARTNERSHIP WITH YOUTH:** *A leading feature of* UNESCO's *work with youth is the System of Associated Youth Enterprises which has been operating since* 1955. *It brings* UNESCO *into association with experimental projects contributing to international understanding and co-operation or to the development of social responsibility among young people. To youth projects which are already under way or are being planned,* UNESCO *gives professional guidance and a documentation service. Reports are received regularly from the associated projects, and they are kept in touch with each other. The system now includes* 47 *projects, including documentation centres on youth work and youth problems in Cuba and Beirut.*

THE BRIDGE BUILDER: A new full colour filmstrip depicting UNESCO's efforts to build bridges of understanding between the nations has been prepared for the U.S. National Commission for UNESCO. Entitled "The Bridge UNESCO Builds", it presents a clear and concise analysis of UNESCO's structure and purposes and a dramatic portrayal of its work in more than a dozen countries. Developed especially for civic organizations and service groups interested in foreign affairs and international relations, the filmstrip is equally useful to libraries, high schools, colleges and adult educators. It is available from the UNESCO Publications Center, 801 Third Avenue, New York, Price (with script) $4.75; (with recorded narrative) $7.50.

■ **ATOM MEN IN AMERICA:** *A team of atomic energy specialists which is now touring Latin American countries is the first mission of its kind to be organized by the new International Atomic Energy Agency (IAEA) with the aim of helping less-developed countries to benefit from the latest knowledge on peaceful uses of atomic energy. Besides studying ways in which atomic energy can promote economic development, the mission will assess the manpower needs involved and will make suggestions for establishing training centres in nuclear technology in the various Latin American countries.*

MICROFILMING EAST & WEST: For the past few years a UNESCO mobile microfilming unit has been doing valuable work in UNESCO's Member States in Latin America. This travelling laboratory completed a six-month mission in Panama, a year's mission in Paraguay and is now working in El Salvador. In Paraguay alone the unit microfilmed 197,000 pages of ancient volumes, many fragile with age, containing precious records of the era of exploration of the New World. In Cairo, Egypt, the Institute of Arab Manuscripts has microfilmed over 15,000 manuscripts and made over 80,000 enlargements since it was founded by the Arab League in 1946. The Arab world's contribution to universal culture is found in over three million volumes scattered around the world. The Institute is reproducing many of the rarest and most valuable and making the collection of microfilms available to research workers.

■ **NATIONAL LIBRARIES' PARLEY:** *Next month delegates from* 26 *European countries will meet in Vienna at a* UNESCO-*organized symposium to outline the tasks of national libraries and to exchange views on the administrative, legal and other aspects of this work. A national library is not only the nerve-centre of a country's library system, but also plays a vital rôle in cultural exchanges between nations. The delegates aim to define the services a national library must perform in each country, on both national and international levels.*

POPULAR PROFESSIONS: According to a recently made survey among nearly 4,000 pupils in 153 secondary schools in Colombia, a high proportion of students—between 18 and 34 per cent—seek to enter the medical profession. Second most popular career is engineering (between 13 and 30 per cent) followed by law (four to 12 per cent) and architecture and dental surgery (three to ten per cent). Some five per cent of the students wished to study chemistry, two to three per cent veterinerary or agronomic sciences, and only 0.5 to two per cent intended to study literature, mathematics or modern languages.

■ **MUSICAL U.N. DAY:** *United Nations Day celebrations this year on October* 24 *will include the first use of an international, transatlantic radio hookup presenting, as a single integrate performance, a three-part symphonic concert originating in three cities. This broadcast symphony concert will begin with the Boston Symphony Orchestra playing in U.N. Headquarters, New York. From there, Secretary-General Dag Hammarskjold will deliver a U.N. Day message to the world. After New York, the programme will come from Paris, and will feature a performance of Bach's Double Violin Concerto by David Oistrakh and Yehudi Menuhin. Lastly the broadcast will come from Geneva where the final movement of Beethoven's Ninth Symphony will be played by the Orchestre de la Suisse Romande.*

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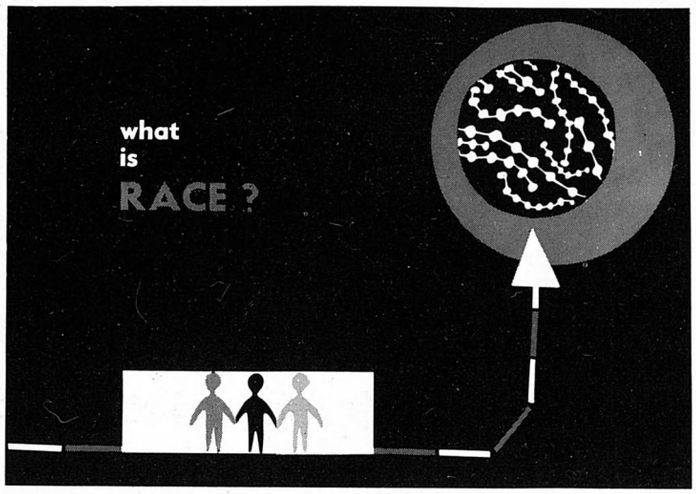

THE RACE QUESTION IN MODERN SCIENCE

Unesco has called upon outstanding anthropologists, sociologists, biologists and physiologists of international renown to prepare a series of publications each dealing with a different aspect of the race question. These small volumes written for the lay reader are most effective in combating racial misconceptions, false theories and prejudices. Their success prompted Unesco to publish them for the first time in one collective volume, forming a full study of the race question in modern science. The nine titles included are:

+ **Race and Culture,** by Michel Leiris
+ **Race and Psychology,** by Otto Klineberg
Race and Biology, by L. C. Dunn
+ **Racial Myths,** by Juan Comas
+ **The Roots of Prejudice,** by Arnold M. Rose
+ **Race and History,** by Claude Lévi-Strauss
+ **Race and Society,** by Kenneth L. Little
+ **The Significance of Racial Differences,** by G. M. Morant
Race Mixture, by Harry L. Shapiro

U.K. edition published jointly with Sidgwick & Jackson Ltd, London.

U.S. edition published jointly with Whiteside Inc., New York.
Cloth: $5.00; 17/6 (stg.); 850 F. fr.

The nine foregoing titles and a tenth, not included in the collective volume (The Race Concept — Result of an Enquiry, $.85; 4/- (stg.); 250 F. fr.) are also available separately. The price of those marked + is $.30; 1/6 (stg.); 100 F. fr.; others are priced $.25; 1/- (stg.); 75 F. fr.

Orders for the separate volumes should **not** be sent to co-publishers of the collective volume but direct to Unesco National Distributors.

THE RACE QUESTION IN MODERN THOUGHT

The Catholic Church and the Race Question

by the Reverend Father Yves M. J. Congar, O.P.

The race question in relation to Catholic dogma is here reviewed by an eminent Catholic theologian. Father Congar sets forth the position of the Catholic Church as regards the problem from the spiritual, the social and the historical points of view, and shows that the principles of Catholicism are profoundly opposed to racial discrimination. $.40; 2/- (stg.); 100 F. fr.

Jewish Thought as a Factor in Civilization

by Professor Leon Roth.

A short description of Judaism's specific contribution to world civilization, underlining what in Judaism in the very negation of racial exclusivism. Professor Roth writes of the history of the Jewish people and explains how ideas which have become in one shape or another part of the heritage of Western man, evolved from the basic laws of the ancient Jews. $.40; 2/- (stg.); 100 F. fr.

The Ecumenical Movement and the Racial Problem

by Dr. W. A. Visser't Hooft.

A study of the basic beliefs and convictions of the World Council of Churches concerning the racial problem. The World Council groups over 160 Protestant, Anglican and Orthodox churches all over the world. The author describes the historical background during the periods of slavery and missionary expansion and examines the present situation in the United States and South Africa, where Protestantism is faced with the greatest problems and the greatest opportunities in the field of race relations. $.40; 2/- (stg.); 100 F. fr.

Buddhism and the Race Question

by G. P. Malalasekera and K. N. Jayatilleke.

Two eminent specialists in the history of Buddhism, show Buddhism's special contribution to the understanding and solution of the race question. One of the main novelties of this work is that it shows how close the Buddha's ideas are to the findings of modern biologists and social scientists. Special attention is given to the caste system and to the different doctrines of Buddhism in relation to this problem. $.50; 2/6 (stg.); 150 F. fr.

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BELGIUM. — For The Unesco Courier: Louis de Lannoy, 47, rue du Midi, Brussels, (Brabant). (fr.b. 100.) Other publications: Office de Publicité, 16 rue Marcq, Bruxelles, CCP 285-98; N.V. Standaard-Boekhandel, Belgiëlei 151, Antwerp.
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U. S. S. R. — Mezhdunarodnaja Kniga, Moscow. G-200.
YUGOSLAVIA. — Jugoslovenska Knjiga Terazije 27/11, Belgrade.

BULWARKS OF POWER IN AUSTRIA'S TYROL

With the Alps occupying three-quarters of the country, the majestic scenic beauty of Austria has made it one of the chief tourist centres in Europe. Massive fortresses are still to be seen high up on the mountains—grim reminders of a bygone turbulent past. Today, the traveller touring Austria can see numerous fortresses of a different kind rising on the steep mountain slopes—the bulwarks of mighty dams built to harness unruly waters and to create the power vital for peaceful pursuits. Double-page photo (front and back cover) shows sweeping towers of two dam walls (Mooser and Drossen dams) scintillating in the reflected glare of a thousand night projectors, being erected near the Grossglockner, the highest peak in the Austrian Alps, and part of the great Hohe Tauern range of the eastern Tyrol. For an amazing aeroplane view of the recently terminated dams in their breath-taking setting, see photo on centre pages 18-19.

Photo Courtesy Tauernkraftwerke A. G., Zell am See, Salzburg.